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THE OPHTHALMIC RECORD

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The December number of the Ophthalmic Record will be a Refraction number and will contain papers by Edward Jackson, M.D., Robert Sattler, M.D., Alvin A. Hubbell, M.D., S. D. Risley, M.D., Francis Valk, M.D., A.W. Calhoun, M.D., and George J. Bull, M.D., of Paris, France. There will also appear reviews of the most recent contributions to Ophthalmology, editorials by prominent ophthalmologists, society reports and miscellaneous items of interest.

The Record particularly desires short practical papers on any subject connected with Ophthalmology. These will be published at as early a date as possible. It is understood that, unless otherwise arranged, original articles when accepted are contributed to the Record exclusively. Illustrative cuts will be made at the expense of the journal and proofs for correction will be sent to authors when desired. Reprints with covers are furnished at cost. One hundred of these will be presented to authors *gratis* when a request for them is written on the original manuscript. The Record will be issued monthly and each number will contain about 54 pages of reading matter.

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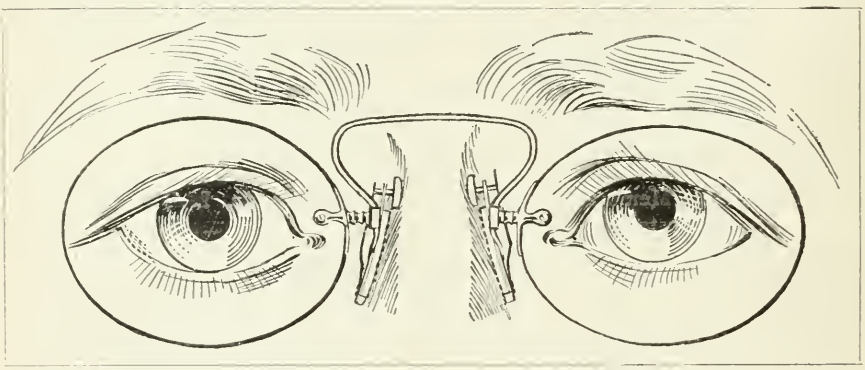

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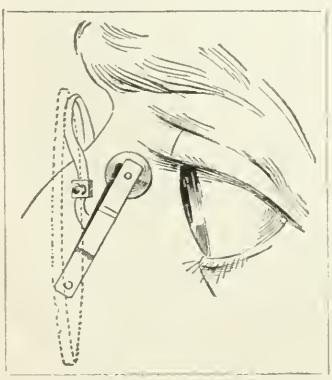

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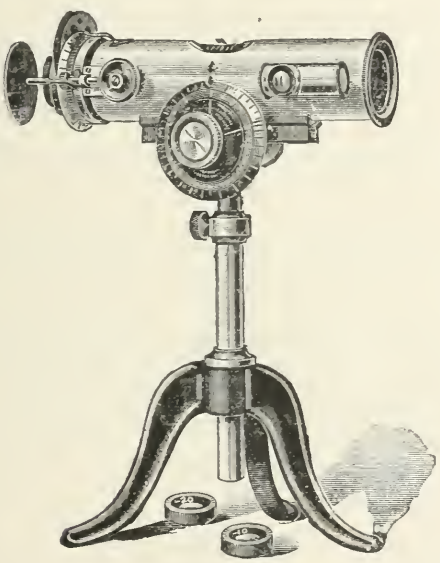

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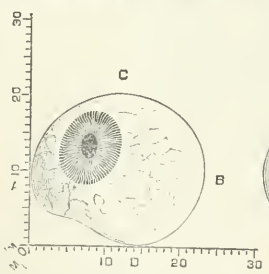

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THE

OPHTHALMIC RECORD

A MONTHLY REVIEW OF THE PROGRESS OF OPHTHALMOLOGY.

VOLUME VII. CHICAGO, NOVEMBER, 1898. NO. 11. NEW SERIES

ORIGINAL ARTICLES.

FRAGMENTS OF STEEL IN THE CRYSTALLINE LENS.

BY S. MITCHELL, M.D.,

OF HORNELLSVILLE, N. Y.

Oculist and Aurist to St. James Mercy Hospital; Oculist to the Erie Railroad.

Illustrated.

The machinist whose everyday duties are such as to demand nearly perfect acuity of vision is, in the exercise of these same duties, constantly exposed to accidents that may not only impair his vision, but deprive him completely of this priceless boon. Flying fragments of steel, from the tools with which he plies his vocation, or from the metal upon which he works, seem to have a special predilection for the eyes. Workers in metals of all kinds as well as the machinist, and in fact all skilled mechanics who wield tools and strike blows in the great industries of this and other countries, are by far the most numerous of all those who come to the oculist with serious injuries to the eyeball.

The outcome of injuries to the various parts of the eyeball, where fragments of steel or iron have been lodged in the globe, has been vastly better since the electro-magnet has come to the assistance of the ophthalmic surgeon. And yet it is the experience of nearly all oculists to have now and then a case where the eye must be enucleated, even though the operation with the magnet may have been successful in accomplishing the removal of the foreign body. Of the conditions that make the removal of the eye imperative, in this class of injuries, it is not necessary to speak of here, since they are common to all.

The pain and inflammation that nearly always attend an injury, whereby even a small piece of steel has been lodged in other parts of the

eyeball, are usually quite mild and sometimes absent altogether, when the piece has passed through the cornea and into the lens without injuring the iris.

All injuries to the eyes, from flying fragments of metal, would doubtless be more often followed by painful and destructive inflammatory sequela were it not for the fact that the same blow which detached and started the fragment on its merciless errand, often generates sufficient heat to perfectly sterilize the missile. Hence the wound is an aseptic one, just as it would be if made by the discission needle of a skillful and up-to-date surgeon.

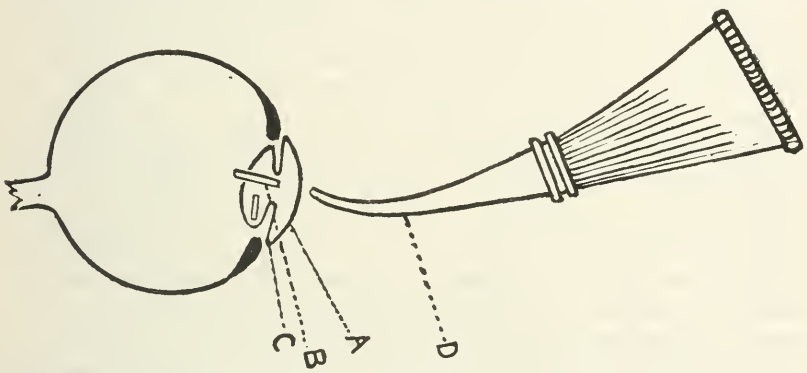
The two following cases may be of interest in connection with this subject. The accompanying illustration has been made to serve the double purpose of indicating the position of the fragment of steel in the lens of both cases.

Case 1. Arthur E., a bright young Englishman, 22 years of age, employed as a machinist in the shops of the Erie Railroad Company at this place, while about his work two hours before and using a hammer and cold chisel, was struck in the right eye by a piece of steel that became detached either from the head of the hammer or chisel. He came to my office soon after the accident. The steel could be seen with the naked eye, apparently a small scale of polished steel resting upon the surface of the lens close to the border of the pupil. The iris was not injured. The position of the steel in the lens is indicated at B in the sketch. The wound was sterilized, and, under cocain anesthesia, the point of the electromagnet was passed through the wound in the cornea made by the steel fragment. As soon as the magnet began to lift the steel, it was very evident that instead of its being a small scale of metal, it was in the shape of a miniature nail, that had been driven into the lens. The size of this piece is quite correctly shown in the illustration, being 7 mm. long by 2 mm. wide. The contact between the steel and magnet was broken several times during the process of removal. It was accomplished quite speedily, however, and with a minimum amount of traumatism. The reaction and pain following the operation was very slight. A one per cent solution of atropin was used for some time and the eye made a rapid recovery. The lens became opaque very rapidly and was gradually absorbed, so that when the patient was discharged three months later, vision was 20/70 with a +10.50 D lens and J 10 could be read fluently with a +14 D lens. The eye at the present writing, four years after the receipt of the injury, is as plump and white as the other eye; the only disfigurements noticeable are a slight anterior synechia and a turning out of the eye about ten degrees. Vision has declined somewhat in the last year or two, on account of a very thin plastic membrane that blocks the opening in the capsule.

Case 2. George S., aged 23 years, a machinist in the employ of the Erie Railroad Company at Susquehanna, Pa. Injury received in the same manner as case one. Ten days after the injury he came to me for treatment. He had been under the care of a general practitioner during this time and apparently no mydriatic had been used. He came with no further history than that of having

received a blow upon the left eye, while at his work ten days before. The lens was very cloudy as seen through the undilated pupil. There was no trace of any wound upon the cornea that led me to suspect that there might be a foreign body in the eye. Pain and inflammation were very mild and the injured eye was not much more reddened than the fellow eye. A one per cent solution of atropin instilled into the eye readily produced a perfect dilatation of the pupil, when by focal illumination a bright glistening body, that proved to be a fragment of steel, could be seen at the nasal side and well back in the edge of the lens. Its position is shown at C in the sketch.

The eye was anesthetized by the use of a 4 per cent cocain solution, and with a medium-sized cataract knife an opening was made in the cornea at A in the sketch. An opening was also made in the lens capsule, immediately beneath the one in the cornea. As soon as the tip of the magnet passed through the cornea and approached the lens, the splinter of steel was seen to be greatly agitated, and to move about like the needle of a compass, when in the neighbor-



hood of any highly magnetic body. The instant that the point of the magnet entered the opening in the lens capsule, the steel sped to it like a bullet to the mark, and clinging to it was quickly and easily removed from the eye. It was a small fragment from the hammer or chisel, 3 mm. long by 1 mm. wide.

I left the city the day following this operation and during my absence of two weeks, the case was under the care of a very competent general surgeon of this city. A 1 per cent solution of atropin was instilled into the eye three times per day. The eye made an uneventful recovery, the lens being absorbed very rapidly.

Within less than three months after the magnet operation, vision in the eye was 20/40, with +12 D lens, and J 2 could be read very nicely with a +14 D lens.

The magnet used in both of these operations has a very slim and tapering point, slightly curved. This is shown at D in the sketch.

The magnet is charged from the same transformer that I employ in my office for controlling the direct incandescent currents for cautery purposes and for operating an aural masseur. It has a lifting power at the apex of about one ounce.

A FEW REMARKS AS TO THE LAWS OF VISIBLE DIRECTION.

BY CARL WEILAND, M.D.

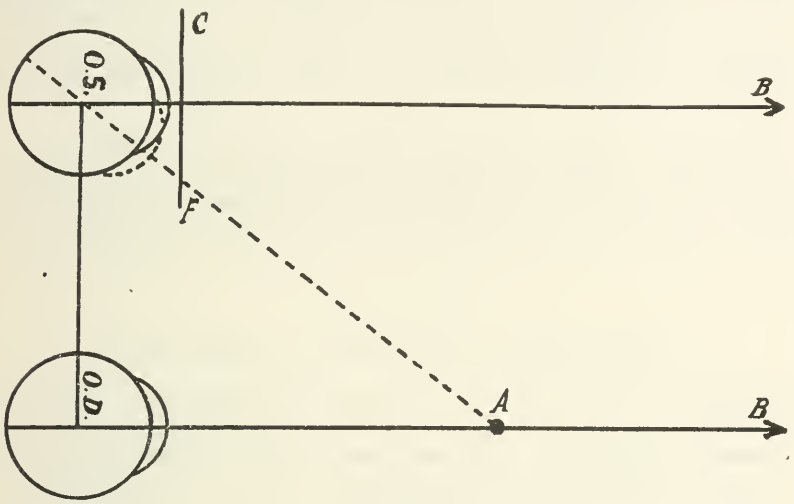
PHILADELPHIA.

Illustrated.

It was hardly to be expected that the theory of Dr. G. C. Savage as to the laws of direction* would be taken seriously by any student of physiological optics. This same theory had been disproved so thoroughly by Helmholtz, Hering and others, that it could be regarded only with historical interest. It was therefore with some amazement that the writer of these lines saw Dr. Harold Wilson's open letter to Dr. Savage in the August number of the OPHTHALMIC RECORD, but this feeling changed into entire satisfaction, when it was found that the views of those great physiologists, enunciated more than thirty-three years ago, were here upheld so ably. Dr. Wilson certainly hits the nail on the head when he says: "In the study, therefore, of the question of the laws of visible direction, we must not confuse the retinal image with the subjective mental state, sensation or perception, which accompanies it, nor demand a rigid conformity of the two things. Any argument as to these laws based exclusively upon the properties of the dioptric image will necessarily be imperfect. It is not simply a geometrical but a physiological and psychological problem." The writer, however, begs to take exception to one sentence (italicized by himself) in the following passage (loc. cit., p. 382): "A distinction must be made between the apparent and the geometrical position of objects in the visual field. *For all points lying in the visual axis of the eye the geometrical and apparent direction coincide.* This is almost a practical necessity and is exemplified in most bodily movements based upon sight." If it can be demonstrated that even for points *in* the visual axis the common geometrical direction does not always apply, it follows that the italicized sentence is wrong; but at the same time it is evident that thereby the argument of Dr. Wilson, that direction and projection is a psychological act, is made only the stronger. Now, Hering has shown that even for objects lying in the visual line the geometrical and apparent direction do not always coincide. This discrepancy is due

*OPHTHALMIC RECORD, January, 1898.

to muscular sensations and is most apparent under the influence of convergence, as is evinced by the following experiment which is modified from that given by Helmholtz (Phys. Opt., 2d Ed., p. 751), and is indicated in the following diagram, where O.D. and O.S. respectively indicate the right and left eye.



Look with both eyes in the primary position at a distant object B (like a candle flame twenty feet away) so that both visual axes are directed straight forward aud parallel to each other as indicated by the parallel lines O.S. B and O.D. B. Now bring an object A about six or five inches in front of the right eye in such a manner that it lies with the object B in the same line of alignment (Visirlinie), which line here coincides with the line of direction and visual axis. Then cover the left eye with an opaque screen C F. If now you accommodate your eyes for the object A, you will observe how object B moves plainly to the right, to return again to its former position the moment you relax your accommodation. Now, in this experiment the retinal image of B is not displaced at all, as the right eye does not change its position. It still covers the same retinal area as before, the macula lutea, but is only a little more indistinct. Still you now project the object B to quite a different place in space. The reason apparently must be found in the fact, easily observed,* that the left eye, behind the screen, converges more or less accurately to point A. It plainly rotates to the right and our mind judges from the sensation,

*If the screen C F has a narrow vertical slit, or if, in case of the hand, a little light is admitted between the fingers the experimenter will easily observe how this light area in front of the left eye moves to the left during the experiment, thus indicating a movement of the left eye to the right.

accompanying this sudden movement of the left eye to the right, that the object B itself has moved to the right. It is not necessary that the right eye should be accommodated accurately for point A as long as only the left eye converges sufficiently. For those, who like the writer have learned to converge their eyes at will without fixing a near point, the object A is not necessary, as simple convergence of the left eye behind the hand will suffice to bring about the apparent but plain movement of a distant object, while the right eye is kept looking constantly in the same direction.

Thus it is evident that the direction in which we project a retinal image is not the result of a simple geometrical law but a complex psychological act and that the common geometrical laws of direction do not always apply, *not even in the simple case of objects lying in the visual axis.*

CONGENITAL ABSENCE OF THE IRIS.

BEING A REPORT OF TWO CASES OF CONGENITAL IRIDEREMIA,[1] OCCURRING IN MOTHER AND DAUGHTER. IN THE CASE OF THE MOTHER, BOTH LENSES WERE DISLOCATED, AND THERE WAS MICROCORNEA AND PTOSIS. OPERATION, FOLLOWED BY GLAUCOMA. RESTORATION OF VISION. WITH REMARKS ON THE CAUSE OF CONGENITAL IRIDEREMIA.

BY JOSEPH A. ANDREWS, M.D.,

Ophthalmic and Aural Surgeon to the City (Charity), Hospital, New York City.

Illustrated.

Congenital irideremia is of comparatively rare occurrence. In an experience of nearly twenty years, the writer has met with this defect only eight times, the two cases herewith reported being included in this number. All of the cases were observed in hospital practice; two of the number having been seen abroad—one at the clinic of the late Mr. George Critchett, at London, in 1881; the other a few days later, at De Wecker's clinic, at Paris. In only one of these cases was an operation performed (extraction of lens — result unknown to the writer). The case, to be described below, furnished the writer the first opportunity for an operation in irideremia with cataract; and as the result was favorable, under the most adverse circumstances, he feels that others may be interested in the history and a consideration of the conditions which should guide us in forming an opinion as to the probable outcome of an operation for extraction of cataract in this congenital defect.

[1] Irideremia, or Aneridia: Deficiency of the whole of the Iris.

Fig. I.

Fig. II.

Congenital Irideremia with both Lenses Displaced Upward.

Right eye.
Cataract mature.

Left eye.
Cataract immature.

Actual size of cornea and lens: vertical diameter, 9 m.m.; horizontal diameter, 10 m.m.; distance between pupillary center, as in above drawing, *i. e.*, 61 m.m.

Case 1. Mrs. Mary E. B., æt. 29 years, was referred to me by Dr. G. Walther Otto, of Santa Barbara, Cal., on March 24, 1897, at which place the patient was under my observation. The patient's mother and father, born in Ireland, had good sight. Her brother and sister also had good sight. Her youngest daughter, aet. 2 years, has bilateral congenital irideremia. An infant daughter, who died at the age of four months, the mother stated also had the defect in her eyes. The boys of the family have normal eyes. The evidence of syphilis in man and wife was negative. The patient was large and obese. She presented no other malformation in any other part of the body than the eyes. The eyes were free from irritation; their *tension* was normal; there was no *nystagmus*. *Fig. 1* shows her cast of features and the degree of ptosis; the lids being separated *ad maximum*, unaided by forced action of the frontalis muscle. The corneæ were clear, but below the normal size, i. e., vertical diameter, 10 mm. The eyeballs appeared to be of the usual size; but, according to Priestley Smith's[2] observations, a small cornea indicates a small globe, and such eyes are especially liable to glaucoma. Distance between pupillary centers, 61 mm. The recti and oblique muscles appeared to act normally. There was no trace of iris, by direct or oblique illumination. Both lenses appeared to be of normal size; were displaced directly upward (see *Fig. 2*), and close to the posterior surface of the cornea. The right lens was of a dark amber color. Below the lens, the ophthalmoscope showed the usual red reflex, but the details of the fundus were not well made out. The left lens, by oblique illumination, appeared gray by contrast with the black field below it; by transmitted light, its anterior surface was traversed by parallel opaque lines and patches (not wrinkles), the red reflex from the fundus being clearly seen through the interspaces. Below the lens, the reflex from the fundus was seen as in the opposite eye; but the details of the fundus could not be made out. Vision, when the head was held in the proper position to receive the image, was: R.E.$=\frac{2}{200}$; L.E.$=\frac{3}{200}$; no improvement with glasses for either eye; projection (candle), good in each eye.

Operation. There was no apparent movement of the lens, but the history of these cases shows that fluid vitreous is the rule. Therefore, with a cornea subnormal in size, a lens of full size, and a presumably fluid vitreous, it was not deemed wise to attempt extraction of the cataract. On December 13th, 1897, under cocaine anesthesia and antiseptic precautions, I did a discission of the right cataract, great care being taken to make the least possible traction upon the zonula, and thus avoid the consequences of cyclitis. The eye remained free from irritation until the morning of December 16th, at which time the patient complained that at midnight she had pain in her operated eye, which lasted half an hour. I found the eye hyperæmic; no ciliary injection; no photophobia; no pain to touch: tension, normal. December 17th, considerable pain in the operated eye during the night. T+2; lens diminished in size. Ordered solution of eserine sulph. (gr. ss. —oz i). December 18th, had a great deal of pain in the eye during the night, T+2. Patient thought the eserine solution increased the pain (?). I instilled a 2 per cent solution of cocaine hydrochlorate, which gave relief; following this up with a 2 per cent solution of pilocarpine muriate. December 20th, T+2; I did an anterior sclerotomy, and continued instillation of pilocar-

[2] E. Treacher Collins. *Transactions Ophthal. Soc. U. K.*, Vol. X, 1890.

pine solution. December 29th, tension is normal; the lens, diminished in size, has dropped to the lower part of the anterior chamber; or rather, lower border of the cornea. The eye being free from irritation, and fearing to lose the lens in the vitreous chamber, I extracted it through a section laid in the cornea. There was loss of vitreous, but the eye made a good recovery. Patient remained under my observation until April 2nd, 1898, at which time she left Santa Barbara to take up her home in Oregon.

On January 31, 1898, R. V. w.+12=D$\frac{15}{100}$

L. V. w.+12D=$\frac{15}{100}$ (no operation).

The fundus of the right eye is now clearly made out. The optic disc shows no cupping, nor is there any arrest of development or inflammation in the nerve, retina or choroid. April 2, 1898, the day of patient's departure, R. V. $\frac{15}{60}$ w+12D.

Case 2. Rosie B., æt 2 years. The eyes were free from irritation; there was no nystagmus; no increased eyeball tension; no ptosis; external muscles acted normally. The eyeballs appeared to be of the usual size. The cornea showed normal dimensions, and they were everywhere free from opacities. Neither eye showed any trace of iris. Both lenses were clear, and in the normal position. There was no changes in either fundus, i.e., the optic nerve, retina, and choroid were normal.

Remarks. It appears that the first undoubted case of congenital irideremia of which we have any record, was observed by Morrison (London, 1820); but he described it as "*congenital mydriasis.*" Even Sichel[3], as late as 1859, described this condition as "*dilatation congéniale extrème de la pupille.*"

Ammon[4] (1829), was the first to publish an anatomical account of congenital irideremia. His first observations were made upon the eyes of a child still born and partly decomposed. Later, he examined the eyes of two calves and a sheep which were subjects of irideremia. Of late years, numerous cases of this defect have been recorded in ophthalmic literature, and numerous hypotheses have been suggested to account for its occurrence. Ammon's view was that the absence of the iris was simply the result of an arrest of development of the uveal tract. This was a most rational explanation, and Arnold thought that he had found an anatomical basis for this arrest of development, by attributing the absence of the iris to failure in the formation of the anterior ciliary arteries; but in the microscopical examination of an eye with congenital irideremia made by E. Treacher Collins[5], these arteries were found well developed. Manz[6] has suggested the explanation that iris is arrested in

[3]. Sichel. *Du Mydriasis Congenital Gazette*, hebdomad, ii, p. 308.

[4]. F. A. Ammon. *Ammon's Zeitschrift f. Ophthal.*, Bd. ii, 1829; also, by the same author: Irideremia und Hemiphakia congenital: *Verhandl. der Kais. Leopold-Carolinisch. Deutsch. Acad. der Naturforscher*, Bd. xxvii, 1858.

[5]. *Trans. of Ophthal. Soc. U.K.*, vol. xiii, 1893.

[6]. Manz, Die Missbildungen des Menschlichen Anges, *Graefe u. Saemisch's Handbuch der Ges. Augenheilk, Bd. ii.*

its development by the resistance of the lens, which, as we know, lies in contact with the cornea during the development of the iris. While Manz does not furnish a reason for the lens remaining so late in contact with the posterior surface of the cornea, it seems that the presence of an intrauterine inflammation, should further explain Manz's view. This opinion is supported by the anatomical picture furnished by those eyes with irideremia which have come to a microscopic examination. In the detailed report of a careful microscopic examination of an eye with irideremia, published by Rindfleisch[7], that writer advances the inflammatory theory. He expresses the opinion that an intrauterine inflammation, leading to perforation of the globe at the sclero-corneal margin (see Fig. 3), with escape of aqueous, had kept the lens in contact with the cornea. So far as I have been able to learn from the reports of the microscopical examination made in other cases of irideremia, there is no proof of the presence of the perforation referred to by Rindfleisch. Furthermore, we know that under normal conditions, the lens and cornea are in close apposition at the time the iris is developing, the tunica vasculosa lentis alone intervening between these structures during that period.

There certainly is proof to support the inflammatory theory. At any rate, it is important for us to know the pathological changes which we should look for in a given case of irideremia; for their presence or absence must greatly influence the prognosis as to the restoration of sight.

Anatomical Examination.—Ammon[8] found the lens system free from defects in development. The cornea showed changes in Descemet's and Bowman's membrane. Pagenstecher[9] found the stump of iris represented by a small pointed pigmented and vascular prolongation, projecting from the ciliary body, as a fork-like division of Descemet's membrane and firmly adherent to the cornea.

Rindfleisch's[10] case showed rudimentary iris in the form of a narrow ring; central part of cornea clouded by outgrowths of grayish-white translucent points; cornea showed a broad arcus senilis; Descemet's membrane was well developed and intact; likewise its endothelium, which latter was everywhere pigmented; the peripheric cloudiness of the cornea was due to dense infiltration with round cells between upper layers of parenchyma, and between these and the epithelium; the sclera was of about normal thickness in the posterior half of the globe.

[7] G. Rindfleisch, *Graefe's Arch.* Bd. xxxvii, Abt. iii, 1891.

[8] F. A. Ammon. *Verhandl der Kais. Leopold. Carolinisch. Deutsch Acad. der Naturforscher*, Bd. xxvii, 1858.

[9] *Heidelberg. Ophthal. Soc.*, 1871.

[10] Loco cit.

In Treacher Collins'[11] case, there was adhesion of the rudimentary iris and of a permanent pupillary membrane to the back of the cornea. The angle of the anterior chamber was developed only in the upper half of the globe; this defect being accounted for by the position of the lens. In Rindfleisch's case, the space between the iris and the cornea was filled with free pigment granules and a few round cells. (See Fig. 3). Rindfleisch found the ciliary muscle flat; and the ciliary body not fully developed; both lenses were dislocated upward; the right lens showed cataracta corticalis, posterior as well as anterior; the left lens was totally clouded and apparently wrinkled and calcific. It appeared that intra vitam, the zonula had been attached to the lens all around; but its fibers seemed to have been too long and yielding to retain the lens in its normal position. The zonula fibers were more numerous and stronger above than below, which would explain the displacement upward of the lens. The *vitreous* was detached, and fluid, with its hyaloid separated from the retina, from the equator forward; for the rest of the posterior half it was firmly adherent to the retina. The *choroid* was detached in two places for a considerable extent. The *optic* nerve showed central physiological excavation.

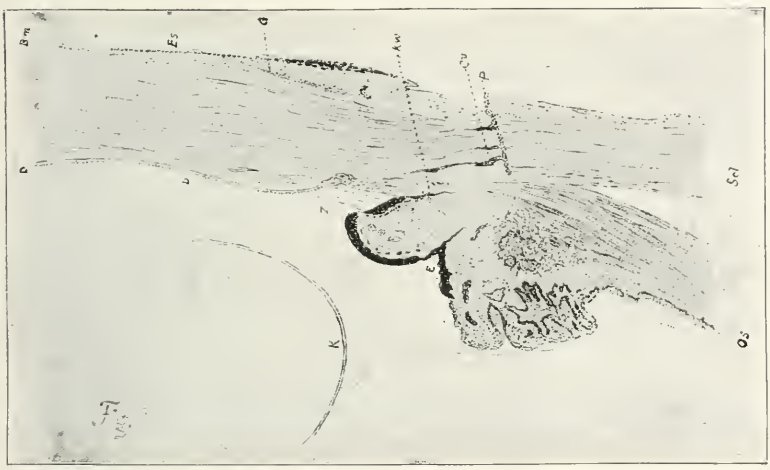
The histological observations are not alike in all of the cases of congenital irideremia, which have so far come under inspection with the microscope, but they show the results of inflammation. This fact, together with a careful study of the clinical picture of the condition as it unfolds itself in the early years of life, force upon one the belief that inflammation plays an important part in the causation of the defect under consideration. Of course this view, even if proven the right one, would not help us to correct the deformity, but it does, so far as it goes, teach a practical lesson, which may aid us, in some instances, to forestall the natural tendency of certain complications in irideremia, and, by a timely operation, prevent blindness.

Symptoms. Congenital irideremia shows a strong tendency to hereditary transmission. In three generations twelve members of one family were found by De Beck[12] to have either colobomairidis or irideremia. It is nearly always bilateral. Manz[13] states that it has been observed in one instance on one side only. While, in most instances, focal illumination may not reveal any trace of iris, the microscope has shown that there is always a rudimentary iris present. The cornea is generally full sized, but may, as in the writer's case, be smaller than normal. The cornea may

[11] E. Treacher Collins, *Trans. Ophthal. Soc. U. K.*, Vol. XIII, 1893.
[12] De Beck, *Trans. American Ophth. Soc.*, 1894.
[13] Manz, *Graefe u. Saemisch Handbuch der Augenheilkunde*, Bd. ii.

Fig. III.

Section from Region of Perforation of Cornea in a Case of Congenital Irideremia.



Es, epithelial layer of cornea; G, bloodvessel; Cv, ciliary vein in communication with circ. venosus; P, site of perforation of sclera; Kw, angle of anterior chamber; Z, coagulum between iris and cornea; E, drawing in of iris; K, detached capsule of lens. (After Rindfleisch.)

be clear, but in most instances, if not at birth, at least in the early years of life, it shows some pathological change. There may be anterior or posterior polar or lamellar cataract; and the lens is frequently displaced, the displacement being bilateral and generally upward, the position in which congenital displacement is most commonly found. The lens may remain clear for some time, but some form of cataract will generally develop before puberty. Hirschberg[14] observed a case of congenital irideremia from the fourth month to the tenth year, in which it was proven that the posterior polar cataract, ectopia lentis and nystagmus, myopia and glaucoma developed later. *Nystagmus* is present in some cases; but this symptom may be absent where, as in the cases recorded by Harlan, Goldzier, and others, the conditions were most favorable to its development. An ophthalmoscope examination may be made difficult or impossible by the presence of nystagmus or opacities in the cornea, lens, or vitreous. When the conditions are favorable, we may find the fundus normal. Changes in the *choroid* have frequently been observed, i. e., coloboma "atrophic spots" (Benedetti). Detachment of the retina has been noted in some instances. Harlan[15] found the optic nerve atrophied and greatly distorted. Pathological excavation of the nerve has been observed by Klein (1877), Brunhuber (1877), Samelsohn (1877), Lembeck (1890), Goldzieher (1897). In sixty-five cases of congenital irideremia collected by Tokuss,[16] only four cases showed pathological excavation of the optic nerve. It may seem paradoxical to state that *glaucoma* occurs in congenital absence of the iris, since we cut out a piece of iris to cure glaucoma; but oculists now agree that the effect of the operation for glaucoma is not so much due to the excision of the piece of iris as to the opening up of the filtration angle by cutting the iris at its extreme periphery. As has already been stated, those cases of congenital irideremia which have come to microscopical examination show that although clinically the absence of the iris seemed to be complete, the microscope always reveals a rudimentary iris root. There is, therefore, in this defect always an anatomical foundation for glaucoma; for the rudimentary iris, when pushed forward, as by the displaced lens, may block the filtration area. The case of Treacher Collins[17] furnishes another remote cause for glaucoma in irideremia; the glaucoma, in that instance having been induced by a failure of the separation of the tunica vasculosa lentis from the back of the cornea.

[14] Hirschberg, *Centralblatt f. prak. Augenheilk*, 1888, p. 13.

[15] George C. Harlan, *Transactions of the College of Physicians, Philadelphia*, Third Series, Vol. VI, 1882.

[16] Tokuss, Inaugural Diss., 1888.

[17] Loco cit.

Treatment. Opaque lenses should be removed as soon as possible. When the lens is displaced, according to the indications of the case., *i.e.*, size of cornea and age of the patient, either a discission or extraction should be done. It should be borne in mind that the change in the position of the lens has its anatomical cause in changes of the zonula of Zinn. If there be no tremor of the lens, it might be assumed that the vitreous is not fluid; but this is by no means necessarily the case. When the lens is displaced the difficulties in performing discission (as in microcornea) is increased, and great care should be taken to fix the lens, and thus avoid as much as possible making undue traction upon the zonula, and thus escape cyclitis. A low degree of increased tension following the discission or extraction may yield to myotics. If the tension should not yield to eserine or pilocarpine, then anterior sclerotomy must be done.

Santa Barbara, Cal.

THE ACTION OF COCAIN UPON THE MUSCLE OF MÜLLER.

BY C. D. CONKEY, M.D.

WEST SUPERIOR, WIS.

One of the effects of cocain when instilled into the eye is to dilate the palpebral fissure. This effect so seldom spoken of by writers is, so far as I know, constant, and in some cases very striking. This action is ascribed by writers to the physiological action of cocain upon the unstriated muscular tissue of the Musculus Palbebralis Superior of Müller. This muscle is dependent for its nerve supply upon the sympathetic system. Cocain causes a spasm of the muscular tissue in the same manner that it produces a spasm of the capillaries and fine arterioles in the eye and in other tissues of the body when it comes in contact with them, and it is the spasm of the muscle which produces the increased widening of the palpebral fissure.

This peculiar action of cocain was presented to my notice a few days since in a very striking manner:

A young woman and her husband from a distant town consulted me for a ptosical condition of the woman's left upper eye lid. The trouble was very noticeable, having the thick heavy appearance of a lid greatly thickened by inflammatory disease. The trouble was of long standing, dating from childhood, and attributed to an inflammatory lid trouble. The deformity produced did not interfere with vision. The case had received treatment from a number of medi-

cal men without results. The under surface of the lid was comparatively smooth with the exception of two or three little nodular bodies scattered over its surface, otherwise it was free from disease. The refraction of the eyes were O. D. $\frac{20}{20}$ w—0.55d. 180° O. S. $\frac{20}{20}$ w—0.27d. 180°. After instilling a few drops of a 4 per cent solution of cocain muriatis upon the under surface of the left lid, I clipped off the little nodular masses upon its surface. A few moments later the husband of the patient called my attention to the fact that the drooping of the lid had disappeared. Not only did this prove to be the case, but the eye was actually wider open than the right. The effect was looked upon as little less than a miracle by the patient and her husband, but I disillusioned their minds by telling them that the lid would lapse back into the former position upon the disappearance of the effects of the drug.

The lid in all its movements was as free and active as the right, as there was no other lesion in the eye due to paralysis of the third nerve, and as the lid while drooping was not fixed in its abnormal position, I should say the case was one of those spurious cases of ptosis we find remaining after trachoma, when other evidences of the disease have disappeared. The action of the stimulated muscle would probably have produced a much less decided result, had there been true paralysis of the levator palpebrae superioris. This muscle had undoubtedly lost much of its power, but still when aided by the muscle of Müller, readily lifted its load.

The action of cocain, as illustrated in this case, might be put to some service as an aid to diagnosis between those cases of true ptosis due to paralysis of the third nerve, those that are spurious due to inflammatory thickening, and those that are due to paralysis of the sympathetic nerve supply to the muscle of Müller. As a rule these various conditions are accompanied with well marked signs which enable one to quickly make a differential diagnosis.

Paralysis of the motor nerve supply of the levator palpebrae superioris is generally accompanied by a dilated pupil and palsies of one or more of the rotary muscles of the eye ball. Paralysis of the muscle of Müller is, as a rule, accompanied by a contracted pupil and a general disturbance of the temperature and circulation of the face upon the affected side, while spurious ptosis is accompanied by none of these signs. However, there do occur cases where the signs are not well marked and where doubt must exist. In this class of cases cocain might throw much light upon the diagnosis.

AN AUXILIARY SKIASCOPE.

BY E. C. ELLETT, M.D.

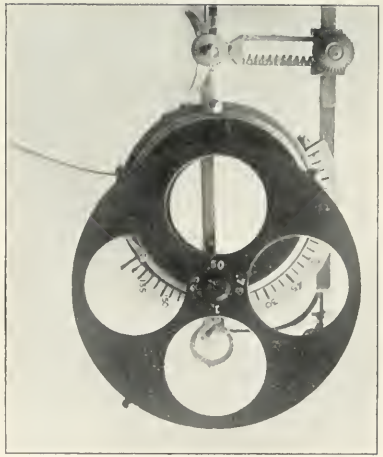
Ophthalmic and Aural Surgeon to St. Joseph's Hospital, the Children's Home, the Shelby County Poor and Insane Asylum, Editor of the *Memphis Lancet;* formerly House Surgeon in Wills' Eye Hospital, Philadelphia.

MEMPHIS, TENN.

Illustrated.

Since the art of Skiascopy has secured so firm a place among the methods of estimating refraction, many devices have been put forward to facilitate its application. Many of these are quite elaborate and correspondingly expensive, such as the instrument of Jennings, that of Perkins, and others. Simpler models are those of Würdemann and Marple, which are practically the same, while Jackson, to whom we are most indebted for the elucidation and popularization of the test, discards all apparatus in favor of the trial frame and test lenses. I have devised what I choose to term an *Auxiliary Skiascope*, to be used in connection with the trial frame and test lenses, which is quite simple, not expensive, and in my hands has proven of considerable utility. Besides this instrument I have used the Würdemann hand skiascope and the revolving skiascope of Hardy, and the device herewith presented is intended to overcome what I have found to be the disadvantages attending the use of these instruments.

The Würdemann skiascope consists of two rows of lenses, plus and minus respectively, set in a long frame with a handle at the end. The patient holds this before the eye, and raises or lowers it as directed to bring successively different strengths of lenses in front of the eye. Unless the other eye is occluded the patient will not bring the lens directly in front of the pupil, and is apt to tilt the frame, giving an astigmatic effect to the lenses. These disadvantages are in a measure overcome by putting on the patient's face a flat, one-celled trial frame, carrying a solid disc before the eye not under test. The skiascope is pressed flat against the cell before the other eye, thus preventing it from tilting, and the fact that the other eye is occluded makes it easier for the patient to get the lenses in front of the pupil. In the same way the Hardy disc, which is a large hard rubber disc carrying two rows of lenses, plus and minus respectively, and supported in the patient's hand by a



handle, may be used. The disc is turned at the surgeon's direction to bring the lenses successively before the eye under test.

The instrument which I present consists of a hard rubber disc 55 m.m. in diameter, carrying four lenses of plus quarter, plus half, plus three-quarters and plus one dioptre, 20 m.m. in diameter. This disc is supported at its center by a pin on which it revolves, and the pin is fixed at its other end to the periphery of a second disc, which is a Thorington axonometer without the line to indicate the axis; that is, it is a hard rubber disc with a 20 m.m. opening in the center, mounted as a trial lens is. This fits the trial frame as an ordinary trial lens does, and is secured by two flat arms projecting backwards from the handle, and intended to embrace the projecting post of the trial frame which supports the temple wire. The strength of the lenses is indicated by figures on the front of the larger disc. The edge of this disc is notched opposite each lens, and a projecting pin catching in these notches stops the lenses exactly in front of the pupil. This little instrument is light, fits the frame firmly, and the relation of the lenses to the patient's eye is not disarranged by any movements of the patient's head.

The instrument is intended for use in practicing skiascopy at one meter, and its use may be illustrated by the following example: Suppose a patient, with the eyes under the influence of a proper cycloplegic, is found to have a hyperopia of 1 D. by the subjective test with lenses and card. He is taken to the dark room, seated at one meter from the surgeon, and a trial frame placed on the face with the correcting lens in the cell nearest the eye, the auxiliary skiascope in the front cell and the other eye occluded. The movement of the shadow (with the plane mirror, and the weakest lens of the skiascope before the pupil) is with the mirror. The patient revolves the disc at the direction of the surgeon, bringing successively the half, three-quarter and 1 D. lenses in front of the eye. The last should reverse the shadow in all directions, otherwise the correction is inadequate. Astigmatism will of course be indicated by a failure to reverse (or early reversal) in one meridian.

Suppose the eye possesses a simple myopia, or 1 D. The similar use of the disc will change the movement of the shadow exactly as in the first instance, and the degree of myopia is the algebraic sum of the two lenses ($+1-1=0$) with -1 D. added. In astigmatism the meridians of least and greatest curvature must be separately corrected.

While the use of this instrument limits the skiascopic test to that of confirmation, leaving the refraction in the illiterate, very young and ignorant to be measured by some of the other methods, its use in this

way has been of such material benefit to me that I am constrained to present it.

I may say that I have tried a double disc to give a larger series of lenses, but it makes the instrument too heavy, and causes the trial frame to sag at one side, besides being quite complicated. I have also tried other methods of attaching the apparatus to the trial frame, but none answer so well as this. While the attachment described will not fit all trial frames, a very slight modification will enable it to do so.

The instrument is made by F. A. Hardy & Co. of Chicago, to whom I am indebted for their assistance in working out the details of the instrument, and for their interest and care in its manufacture.

Continental Building.

RING SCOTOMA WITH NIGHT-BLINDNESS.

WM. E. BRUNER, A.M., M.D.

CLEVELAND, OHIO.

Clinical Assistant in Ophthalmology Medical Department of Western Reserve University.
Ophthalmologist to St. Vincent Charity Hospital and Cleveland City Hospital.

Illustrated.

Ring scotomas are rather infrequent and interesting, and the combination of ring scotoma with night-blindness renders the following case, I trust, not unworthy of being reported:

Mrs. ——, age 37 years, first consulted me concerning her eyes in January, 1897, with the history that she had had poor sight all her life, though she had noticed it more in the past few years. She has difficulty in recognizing people on the street and in seeing in the evening, or even in a dimly lighted room. At first she thought that she had had this hemeralopia for only a few years but later after talking to her friends about it and thinking more about it herself, she was of the opinion that she had had it for fifteen or twenty years or even longer; in short, it is extremely probable that it was congenital. Glasses were given her some years ago and special reading glasses several years later, but they do not seem to afford much help. She says the eyes are very slow in focusing either in looking from a distant object to something close at hand, or the reverse. Her field of vision seems small so that in reading she cannot see a whole line at a time and consequently she must read very slowly. She finds difficulty in playing cards in that she frequently mistakes the number of spots on the card, not seeing all of them at a time. This difficulty in seeing a whole line or several objects at once has been especially noticeable she thinks, for one and a half or two years and she inclines to the opinion that it is getting worse, or else it simply seems worse because she notices it more. She never suffers any pain in the eyes, nor with headaches, except a dull ache when she is very tired; but this evidently is not of eye origin. Muscæ volitantes, some large and variegated in

color, annoy her at times, especially when she is tired. The eyes are never red, but when a child she did at times have slightly inflamed lids.

The family history is good and is negative as regards any eye trouble. Her mother is living and healthy, aged sixty years. Her father died under forty years of age from some disease of the liver after an invalidism of considerable length of time. Her own health has been good though she is subject to occasional attacks of tonsillitis. She has had influenza or "la grippe" several times and the eyelids were inflamed during those attacks. She has never had rheumatism, though she does at times have muscular cramps when the muscles are put to some unusual exertion. She presents no symptoms pointing to gout and there is no history of it in the family. She has never had malaria. She has two healthy children and syphilis can, I believe, be excluded, nor is there anything pointing to inherited specific disease. The teeth are rather bad, one incisor in the upper jaw being somewhat notched and the two middle ones capped with gold. The hearing is normal. She inclines to think that the eyes may be worse since the birth of her children, but she had no trouble with the eyes while pregnant nor immediately afterwards, and it seems altogether likely that there is no relation whatever between the eye trouble and the birth of her children. Menstruation has always been regular and the eyes have never been more troublesome at such times. She has a lateral laceration of the cervix and also a lacerated perineum, but this condition is better than it was several years ago and the gynecologist is of the opinion that it has no effect upon her general health. She feels well except that she tires very readily; is stout, but very "flabby." She has recently been getting massage and as a result is feeling better. Her color is good, though formerly she was rather pale. She takes very little exercise, bowels are regular, appetite is poor. She thinks her circulation is poor, as she suffers a great deal with cold hands and feet. Her physician, however, thinks this is due chiefly to the fact that she does not dress warmly enough. The heart and arterial system are normal. The knee jerks are apparently diminished somewhat, station is good. Examination of the urine shows it acid in reaction, specific gravity 1011, neither albumin nor sugar present, while the microscope reveals a few crystals of oxylate of lime and urates, some epithelial cells but no casts.

Examination of the eyes. Vision O. D. 6-22 partly O. S. 6-15.

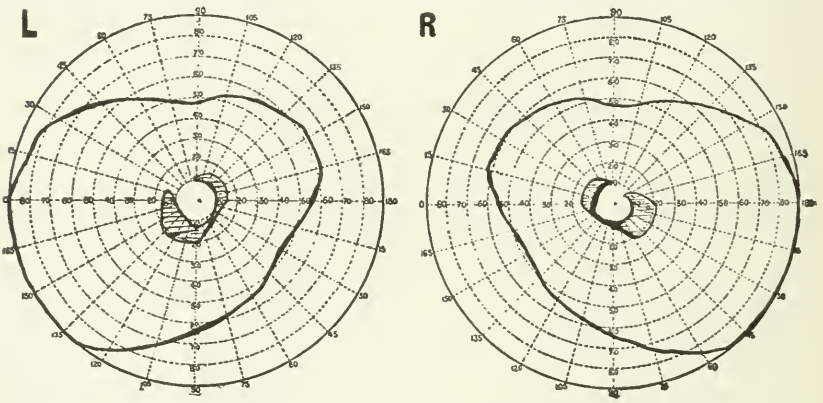
Accommodation: O. D. Jaeger No. 1 pp. 10 Cm with difficulty
O. S. " " " " 11 "

Muscles: At a distance Exophoria 1 degree, left hyperphoria 1½ degrees; in accommodation exophoria 2 degrees. The eyes move freely in all directions.

The pupils are equal and respond promptly to light and in accommodation. The tension is normal. There is slight scaliness at the roots of lashes on both upper lids. She complains at times of slight epiphoria but the puncta are patulous and in normal position and there is no indication of any obstruction in the duct. Javal's Ophthalmometer: O. D. 1½ D, axis 75° against the rule. O. S. ½D, axis 75° against the rule. Perimetric examination reveals the interesting feature of the case—a partial ring scotoma symmetrically placed in the two eyes. The outer limits of the form field are normal and so also are the color fields. The scomotas are well shown in the accompanying charts taken in January, 1897,

shortly after her first visit. They have remained practically unchanged to the present time, and whatever slight variation has been found was probably due to a difference in degree of the intensity of the light under which the examination was made, as the interesting point was brought out by Dr. Herman Knapp who saw the case a few months ago that by moderate obscuration of the room a total ring scotoma was found in each eye.

Ophthalmoscopic examination: O. D., media are clear, disc is round, of good color, with physiological cup; slight choroidal disturbance was present about the edges of the disc, with a narrow line of pigment deposit. The vessels are normal in size but show somewhat unusual distribution. Their origin is pushed toward the temporal side and they round toward the macula by a double curve. There is general disturbance or irregularity of the superficial pigmentation, more marked below and on the nasal side. This evidently has no bearing what-



ever upon the scotoma, which is also most marked below. In the far periphery there is some uncovering of the choroidal circulation with the spaces between the choroidal vessels darker than usual. With the exception of one very small round spot in the periphery there are no pigment spots in the fundus. O. S., the condition is practically the same except that the disturbance or irregularity of the superficial pigmentation is more marked. The nerve is normal in appearance and there are no pigment spots.

She would not consent to the use of a mydriatic, much as I urged its necessity, and I was obliged to measure her refraction without it, with the following result:

O. D.—2.25c axis 75° V=6-7 .5 partly

O. S.—0.75s⌒—1.25c axis 75° V=6-6 partly

It required some time for her to become accustomed to these glasses, but since then they have helped her very much at distance and even more for close work.

We have, then, two interesting symptoms: the hemeralopia and a ring scotoma. In the presence of the former we naturally would think first of the possibility of retinitis pigmentosa, but nothing in the fundus gives any indication of it, although the ophthalmoscopic examination was not

made with the iris paralyzed, "a prerequisite," according to Gould, "of accurate examination of the extreme periphery of the field." Nor could it be a case like those described by Gould (*Annals of Ophthalmology*, 1897, p. 695,) of retinitis pigmentosa without the characteristic pigmentation, for in these, as in the typical cases of pigmentary degeneration, there was contraction of the form field, while in our patient the outer limits of the form and also of the color field were normal. The ring scotoma would not of itself exclude retinitis pigmentosa, for Wilbrand (Norris and Oliver, *System of Diseases of the Eye*, volume II, p. 202,) in his article on perimetry says that in this disease ring scotomas are sometimes found. "In such cases the color field is contracted, existing only in those portions which are connected with the fixation point." Schöbl (*System of Diseases of the Eye*, volume III, p. 466,) in his article upon diseases of the retina speaks of ring-shaped defects occurring in rare instances in retinitis pigmentosa. A number of cases have been reported, as by Wagenmann at the meeting of the *Ophthalmological Society* at Heidelberg, August, 1897, three cases by Noyes (*Diseases of the Eye*, Second Edition, page 627), and others. This hemeralopia is also sometimes found associated with chorio-retinitis, choroiditis disseminata and other conditions, all excluded here, and in some cases is congenital without concentric field limitations and without any pigmentary changes.

Beside retinitis pigmentosa, ring scotoma is due sometimes to chorio-retinitis, or choroiditis, especially the syphilitic type, and a number of such cases are reported, as by Wilbrand (*System of Diseases of the Eye*, Norris and Oliver, Volume II, page 203,) and by Karl Baas at the meeting of the *Ophthalmological Society* at Heidelberg, August, 1897, (reported in *The Archives of Ophthalmology*, Volume XXVII, page 353). It is due also to lesion of the nerve. Vossius (*Archives of Ophthalmology*, Volume XXVII, page 353,) reports a case due to an acute attack of optic neuritis occurring in a young lady suffering with arthritis. De Schweinitz (*International Clinic*, Volume III, Fourth Series, page 315,) reports a case which he explains "by an interstitial neuritis affecting the intermediate fibres of the nerve without seriously encroaching upon the peripheral and macular bundles." He also reports another case of irregular ring scotoma which is more difficult of explanation, and which it was my pleasure while I was his assistant to examine. Burnett (*Transactions American Ophthalmological Society*, 1887,) in an interesting article upon this subject, reports two cases. He does not believe it due to disease inside the eye-ball, but to disease of the nerve. He lays special emphasis upon the division of the nerve into

three zones: the central, intermediate and peripheral, and says, "in ring scotoma we probably have the intermediate fibres affected by a circumscribed neuritis of the same nature as that which affects the macular fibres in the cases of central scotoma leaving the peripheral and macular bundles intact, or it is possible that there may be pressure on these fibers where they lie on or near the surface by an exudation or growth from some contiguous tissue." Von Graefe was the discoverer of ring scotoma, and he thought it due to a lesion in the nerve, and Landolt (*Annales d' Oculistique*, 1880,) was of the same opinion regarding the case he reported of double annular defect associated with lead poisoning. The condition in my patient has remained unchanged since she had been under observation, and I am rather inclined to the opinion that the ring scotoma, like the hemeralopia, is probably congenital and will not be progressive. Dr. Knapp, if I may be permitted to quote from a recent personal letter, inclines to the same opinion, believing the defect shows a "rudimentary development which future investigation will doubtless clear up." Only careful observation of this case for a considerable period of time will definitely settle the fact whether our opinion concerning the non-progressive character of the defect is correct or not, and we shall watch it with much interest.

514 New England building.

OPHTHALMIC MEMORANDA.*

BY G. E. DE SCHWEINITZ, A.M., M.D.

PHILADELPHIA.

Illustrated.

CASE I. PARALYSIS OF THE LOWER HALF OF THE IRIS (PARTIAL IRIDO-PLEGIA) AS A SEQUEL OF IRITIS.—Even after perfectly cured cases of iritis slight traces of the original disease can usually be detected: pigment on the lens capsule, small points of former synechiae spots of discoloration, atrophic fibres, etc.; but in my experience it is uncommon to observe as the sole sequel of severe irido-cyclitis complete loss of the action of one-half of the iris, all other functions of the eye having been restored to the normal state.

Mary A., unmarried, aged 20, born in the United States, consulted me on the 10th of January, 1898, for relief from an attack of inflammation of the left eye.

History.—The patient was a slender girl, of good coloring, who maintained

*Read in part before the Section of Ophthalmology of the College of Physicians of Philadelphia, October 18, 1898.

that she had always been in perfect health, her only complaint of general disability being an occasional attack of lumbago. The family history was good, and there was no reason to suspect specific taint. Six days prior to her visit the left eye began to be painful and watery, and neuralgic pains began to shoot through the brow on the same side. The next day the pain was much worse, and the eye became intensely, congested and tender. The weather at the time was very cold, and the patient, during a menstrual epoch, had gone skating, and afterwards had ridden for a long distance in an unheated car.

Examination.—V.=5/30 with difficulty. There were fine pericorneal injection, general bulbar flushing, corneal haze punctated below, discoloration of the iris, and deep anterior chamber, but no synechiæ. The pupil dilated evenly under the influence of a mydriatic. Only a very hazy view of the fundus was obtained.

Atropine, hot compresses and salicylate of sodium were ordered. No improvement occurred in three days; in fact, the ciliary tenderness and flushing increased, and the fine punctate haze in the cornea settled into a more or less characteristic triangular patch of dots upon Descemet's membrane. Tension was slightly raised, and vision sank to the ability to count fingers at one foot.

The temple was now leeched, and for the salicylate of sodium were substituted iodide of potassium and bichloride of mercury. For several days the haze in the cornea and the discoloration of the vitreous were so great that only a faint reflex from the fundus was obtainable. Then there was gradual clearing of the inflammatory and exudative processes and breaking loose of one small synechia which had formed below. The pupil remained perfectly round while under the influence of the mydriatic.

At the expiration of a month the eye-ground could be seen, the disc being congested and hazy, and with +1 D.c axis 180, V.=6/12. At the end of another month this astigmatism disappeared and with + 75 D.V.=V6/5. The iris regained its color, and the media were entirely clear with the exception of a few points of fine haze in the lower portion of Descemet's membrane, which could be determined only with a corneal loup.

On April 19, 1898, or three months after the attack of iritis, vision without correction being 6/5 the amplitude of accommodation 10 D., and the media clear, the pupil under the influence of direct daylight assumed a horizontally oval shape, while the opposite pupil was perfectly round. The movements of the iris were present only in its upper half, the *lower half being completely paralyzed.* Strychnia was ordered, and the patient was not again seen for two months, when precisely the same conditions obtained, i. e., only the upper part of the iris was mobile. This partial iridoplegia has continued to the present time, giving no inconvenience, and not being readily detectable unless the eyes are submitted to the ordinary examinations for eliciting the pupillary reflexes.

A similar condition after a blow on the eye, that is partial traumatic mydriasis, is a comparatively common occurrence, and may be due to injury of the delicate nerve endings in the sphincter of the iris, associated sometimes with a tear in this membrane. In the present case the loupe fails to show any difference in the appearance of the iritic fibres in the

paralyzed and the non-paralyzed area, and, as already stated, there is not the slightest disturbance of any other function of the eye. Evidently the nerve endings or filaments which supply the lower half of the iris have been permanently injured by the preceding inflammatory process.

Case II. Symmetrical Changes at the Macula Following Iritis, Probably Due to Degeneration of the Retinal Ganglion Cells.—In March, 1896, I called the attention of the Fellows of the Section to an unusual form of macular change which occurred in a woman, aged 55 years, one year after a severe attack of serous iritis. It was then described as follows:*

"Exactly at the center of the macular region was an oval, grayish red area, about one-third the size of the optic disc, and containing in its center two yellowish white dots. This spot was surrounded by a greenish ring, somewhat raised, so that the reddish portion appeared as if at the bottom of a small pit, the sides of which were composed of the greenish border described. The macular reflex was unusually distinct." The accompanying illustration, obtained from a water color made at that time and then exhibited, gives, as well as an uncolored picture can, the appearance of this peculiar spot.

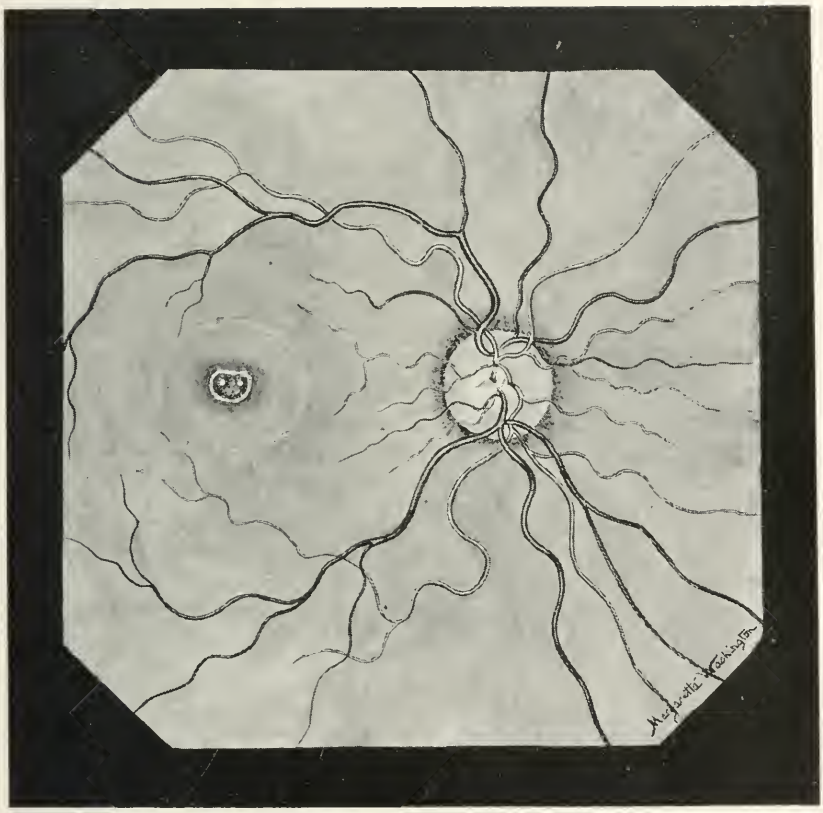
Practically, no favorable result was reached by treatment, although the various alteratives—mercury, iodide of potassium, arsenic, etc.—were tried in succession. A little more than a year after the appearance of this lesion, namely, on March 1, 1897, the spot was still distinctly visible, and presented the characteristics already described, except that the greenish ring was no longer manifest, and the reddish part which had occupied the center of the circle was not quite so distinct.

The vision of the left eye had remained as good as ever it had been after the original attack of iritis, namely, 6/12, until this date, when it began to fail, and became 6/45. There were some vitreous opacities, one large semi-transparent one closely resembling a huge epithelial cell, but these opacities had been more or less constant ever since the original attack of iritis.

On the 23d of the same month an area of macular degeneration exactly like that which occurred in the right eye began to be visible, and in a few days assumed the characteristics which belong to the one upon the opposite side, so that the illustration then made is an equally good picture of the present lesion. Vision, however, on this side never sank quite as low as it did on the other, and at the last examination, about half a year ago, was 6/60, medication, as in the former instance, having had practically no effect upon the area of degeneration. The lesions were then exactly symmetrical.

In the first communication I suggested that the reddish material in the center of the area might be accounted for by the products of a hem-

*1. The Philadelphia Polyclinic, Vol. V, 1896, No. 29.



orrhagic extravasation, but that the deep greenish ring which surrounded this mass was not readily explainable. In the absence of microscopic examination this explanation might be continued, but it is so evidently unsatisfactory that I wish to call attention to another and more probable hypothesis.

In the first place, the ophthalmoscopic appearances of the lesion are not those of a hemorrhage, which in my experience does not produce at any stage of its existence an oval, faintly granular, grayish-red area of this character. Moreover, I had the opportunity of seeing the second eye at short intervals just at the time when this appearance was developing, and there never was any sign of hemorrhage—only a gradual manifestation of this macular change. It is further suggestive that before the actual manifestation of the area of degeneration there was marked depreciation of vision, which would indicate that the percipient elements were undergoing changes which at that period no doubt would have been detected by the microscope but were not yet evident to the ophthalmoscope.

All of us are acquainted with the ophthalmoscopic picture of amaurotic family idiocy—the so-called symmetrical changes in the macula lutea, first described by Warren Tay. In these cases there is an oval, gray patch, larger than the optic disc, having a reddish spot in its center and somewhat resembling the cherry sport in the macula found after embolism of the central artery of the retina. Although for some time it has been known that degenerative changes could be found in the cells of the cortex of the brain in these infants, the earlier microscopic examinations of the eyes were unsatisfactory. It has fallen to the lot of Dr. Ward Holden, of New York,* to examine the eyes of a case of this character under the care of Dr. Hirsch, and to find by means of Nissl's stain extensive changes in the ganglion cells, which changes, to quote the author, "readily explain the fundus picture, which, indeed, admits no other anatomical explanation." To attribute the present macular changes in the yellow-spot region to analagous ganglion-cell alterations is perhaps warranted in the light of these investigations, but of course could not be proven unless opportunity were given for making sections through such a spot as this. Independently of the interest which centers in its pathological origin, clinically the lesion is a most interesting one, and so far as my experience goes, and I believe I am correct also in quoting the experience of Dr. Norris and Dr. Jackson, is unique.

*Journal of Nervous and Mental Diseases, July, 1898.

THE

OPHTHALMIC RECORD.

A MONTHLY REVIEW OF THE PROGRESS OF OPHTHALMOLOGY.

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EDITORIALS.

TESTS AND STUDIES OF THE OCULAR MUSCLES

Is the title of a new book by Ernest E. Maddox, M.D., which should be read by every one engaged in ophthalmic practice. Its pages (419) are full of interest and instruction. His description of the capsule of Tenon and the check ligaments is the clearest and best the writer has had an opportunity to read.

The work sets forth with comparative fullness all that is known of the function and errors of the extrinsic ocular muscles. His teaching relative to the management of muscle errors is very conservative, and probably this is best. That the author will change some of his views on this point and become bolder in his dealing with heterophoric conditions, this reviewer doubts not. While there may be other parts of this book with which the writer could not agree, a statement on page 146, concerning the exclusion test in the near, he believes misleading and incorrect. While the resetting in, on removing the cover, may occur in a great many persons, it cannot be considered a normal physiological condition. It occurs only in cases of exophoria and in asthenic orthophoria—it never occurs in sthenic orthophoria, nor can it possibly occur in esophoria.

In the book there is a great deal more to be praised than to be condemned. The author is specially happy in his suggestion that "superduction" and "subduction" be substituted for "sursumduction" and "deorsumduction." These new terms will go into general use at once. There are other new terms suggested by him that are equally appropriate.

As would be expected of Maddox by all who know him, to every original worker in the "muscle field" he has given due credit for his labors. This writer is grateful to him for his chapter on latent torsion (insufficiency of the obliques) and for his reference to oblique astigmatism.

G. C. S.

REPORTS OF SOCIETIES.

MEETING OF THE MEDICAL SOCIETY OF HAMBURG.

Translated and Abstracted from Die Ophthalmologische Klinik.

BY H. V. WÜRDEMANN, M.D.

OF MILWAUKEE, WIS.

Sænger spoke upon "*Hysteria and Nervousness in Children*," in which he laid stress upon the ocular symptoms and their relations to functional nervous disturbances. He distinguished three groups of nervous diseases in children, and in all found certain symptoms of the organ of vision. 1. Neurasthenia:—Out of 30,759 cases of eye diseases from the polyclinic there were 1,029 children with nervous asthenopia. The latter is often a portion of the general nervous condition which is not always recognized and often remains the principal symptom. Conjunctival or accommodative asthenopia has nothing to do with this. It does not come from central origin, but may be more often referred to retinal causes, which are connected with a deficient nutrition and lessening of the visual substance, as has been shown by Wilbrand. 2. Hysteria:—Blepharospasm of long duration without appreciable eye affection may occur in this condition, which sometimes may show as a form of ptosis. Hysteric ptosis is common enough, but hysteric amaurosis is less common. 3. The combination of neurasthenia and hysteric conditions:—In children this group shows itself ordinarily in connection with photophobia and a weakness of the eye for the near point, pain in eye, etc., diminished visual acuity and concentric contractions of the field of vision; also a neurasthenia of the eye, all of which Michel has called hysteric stigmata. The causes of these symptoms in children between ten to fourteen years of age are seen by Sænger to be too much forcing of work at school, poor hygienic surroundings, in anemic children of the poorer classes. These ocular symptoms are plain, as the eye is one of the first organs affected.

Liebrecht doubted very much the common occurrence of general hysteric eye symptoms. True hysteric eye symptoms are complicated with the occurrence of double vision, one-sided enlargement of the pupil

with reaction, and sensory changes in the cornea and conjunctiva which often last for years.

Beselin recommended strongly the use of suggestion in these conditions in order to determine the cause of the disease, as well as to help in the diagnosis and therapy. Success is often obtained by the correction of the refraction, which improves the vision and cures the general condition. The development of the affection is caused through eye-strain, especially in astigmatism and hyperopia. The possibility of functional paralysis is to be considered in cases of paralysis of convergence and accommodation.

Franke condemned drugs and recommended the use of protective glasses and the stopping of school, for cure of muscular asthenopia. He excluded refractive and muscular disturbances, because through the correction of these alone further curative experiments are often rendered unnecessary.

Beselin showed the case of a 58-year-old man with *pulsating exophthalmos* which had arisen two months before from a fall on the head, which was attended by loss of consciousness and bleeding of the nose and right ear. The cause was an injury from a splinter of bone to the internal carotid within the cavernous sinus. Through this an arterio-venous aneurysm developed, which continued into the ophthalmic veins within the orbit. A rushing sound with pulsation in the left ear could be heard on the left side of the skull. The eye protruded 1.5 cm. There was paralysis of the levator, and the outer eye muscles caused by pressure upon the nerves and diminishment of sensation in the region supplied by the trigeminous, enlargement of the conjunctival and retinal veins, moderate diminishment of the visual acuity. By treatment for three weeks, six hours a day, of compression applied to the common carotid, there was improvement of the trouble and cessation of the exophthalmos.

MOSCOW OPHTHALMOLOGICAL SOCIETY.

Katalskaja showed a patient who had *injury of the eye with a hat-pin*, who had come to the physician three hours afterwards, when there was observed a small wound of the cornea, injury of the iris, slight opacity of the lens and bleeding into the vitreous and retina. Fingers could be counted at 3 m. The vision diminished and there was slight pericorneal injection. Less than a month later the vision improved, the cataract resorbed and the fundus was visible. At the site of the injury, where

a large white spot was formerly seen, there now appeared two small grayish white plaques between which there was a narrow dark line. The author believes that this was a *superficial injury of the retina.*

Jerechkowitsch showed a patient who had a *splinter of steel in the eye* several months before, which was in the periphery of the vitreous, and was easily seen by the ophthalmoscope. This foreign body was removed through an incision 1½ m. through the sclera back of the cornea by the aid of the *Haab's large elecro-magnet* with good ultimate results.

Maklakow showed a case of *retinitis proliferans* in a patient 44 years of age, who had noticed loss of vision in the right eye for twenty years; while the left remained healthy. About four years ago the vision of the left eye began to decrease in much the same manner as that of the right. Externally nothing abnormal. Ophthalmoscopic examination: right papilla whitish, the outer portion covered over with a bluish white mass which projects into the vitreous. From this mass a white string proceeds which is connected to the periphery of the retina. In the periphery of the choroid there are atrophic plaques. These masses float about in the vitreous body, and the entire nerve head can be observed through them. They cover the outer portion of the papilla and project somewhat into the vitreous, and consist of newly-formed connective tissue, but no blood vessels. On the left side there was a neuritis with bleeding into the nerve head. The formation of new tissue in the vitreous was supposed to have occurred from bleeding of the retina following a neuritis. This was the most likely diagnosis, as in the second eye affected a neuritis with hemorrhages was to be observed.

Adelheim did not concur with the diagnosis of the speaker. The newly-formed membranes observed in the vitreous were connected only with such a thin string to the retina, and the theory could be attacked which placed the cause of the disease in the retina. Changes in the choroid are readily seen in this case, but the retina seems to be normal. All this speaks against diagnosis of retinitis proliferans. The appearances in this patient are certainly of interest, but should not be called by the name of proliferating retinitis.

Krukow: Although the connection between the retina and the new tissue formation is in this case but a very fine string of tissue, this condition does not speak against the diagnosis of retinitis proliferans. He had observed a case of retinitis proliferans from the beginning of the disease, which had arisen from hemorrhages and proceeded to new tissue formation, and this tissue ultimately bore but a slight relation to the retina, which must be the case in the present one. The connection of new tissue formation in

its entire relations is unnecessary for the diagnosis. Notwithstanding the absence of blood vessels in the new tissue formation, the disease may be called retinitis proliferans as the new formed vessels may become obliterated.

Natanson thought that this case could not be properly classed under the head of retinitis proliferans. 1. Because the mass of connective tissue did not lie in relation to the retina in its entire extent, which for the before-mentioned diagnosis is absolutely necessary. 2. Because there were no new blood vessels visible. 3. On account of the existence of choroiditis. No cases of retinitis proliferans combined with choroiditis have yet been observed. This case was one of another kind, perhaps of a syphilitic nature, and should not be called retinitis proliferans.

Malakow believed in his diagnosis of retinitis proliferans. The new tissue was connected in two places with the retina. It is difficult to distinguish whether this connection did not exist in the entire extent, as a view back of the mass was impossible. If this was not a typical retinitis proliferans, then we had a disease which resembled it in a striking manner. Contrary to the statements of Adelheim and Natanson that the diagnosis of retinitis proliferans was not possible on account of the existence of choroiditis, Malakow believed that it was impossible to shut out the existence of choroiditis in the aforesaid disease, even if no cases of the combination have yet been reported, and that a choroiditis cannot well be excluded in connection with a proliferating retinitis.

Golowin: Retinitis proliferens is not well understood, and a number of retinal changes have been given the name. The patient under observation had changes in the retina similar to those of retinitis proliferans, and on account of this the case might well be called this disease. Until a scientific classification of such cases is made we must place cases which resemble each other in the same group.

When *Ewetsky* had first seen the case he did not call it retinitis proliferans, but later, after better observation, recognized it as this affection. It was not typical, but resembled retinitis proliferans so closely that this was the proper diagnosis to make.

Lawrentiew, in closing, spoke upon the *ophthalmic qualifications for Russian military service.*

Meeting March 24, 1898.

Filatow showed a case of "*Congenital Anomalies of the Cornea and Iris.*" These anomalies consist of: 1. Microcornea and flattening of the corneal surfaces. 2. Corneal opacity. 3. Ectopia of the pupil com-

bined with myosis. 4. Persistent pupillary membrane attached to the posterior wall of the cornea. Both eyes show exactly the same anomalies. The diameter of the cornea is 10 mm. The small flattened out cornea was clear in the center, but on the periphery there is a snow-white ring of opacity about 2 mm. wide, somewhat similar in appearance to the limbus. From this there proceed fine white rays. Through the anterior chamber the surface of the iris and the pupil may be observed. The pupil is very small, reacts to light and is of a vertical oval. The surface of the iris is uneven and of different colors. On the outer portion of the iris, there is a fine process, which communicates by thin string-like structures with the iris. The inner portion of the iris is not visible. It is covered over by a three-cornered membrane, whose wide base is obscured by opaque cornea and cannot be observed, but the point of which lies under the center of the clear cornea. The anterior surface of this membrane touches the posterior wall of the cornea, although the posterior surface is only connected with the iris in two places. From the point of this three-cornered membrane a fine string-like process proceeds outward which passes under to the iris.

Sneguirew. "*The Influence of Holocain upon Diffusion of Fluids from the Conjunctival Sac to the Anterior Chamber.*" The speaker had found by Bellarminoff's method that holocain favorably influenced and increased diffusion from the conjunctival sac into the anterior chamber, and concluded that the combination of holocain with atropin or eserin would produce more favorable results than when these drugs were combined with cocain.

Golowine. "*Intraocular Hemorrhage after Sœmisch's Operation.*" In the case of a patient with ulcus serpens corneæ, in which there was hypopion half filling the anterior chamber, the author made a keratotomy, the cut being 4 mm. in diameter. The outflowing pus tore the iris. During this it appeared as if a round mass of the iris would be forced forward; the lens immediately came forward, so that it was difficult to keep the edges of the lens from being injured during the operation. The bandage had to be changed one-half hour later, as it was entirely soaked with blood. In a couple of hours the bleeding stopped, and the patient was enabled to leave the clinic in a few days. The little mass which came out of the eye was determined upon microscopic examination to be composed of the ocular membranes of the iris, choroid, etc.

Natanson did not think that this sort of a case had ever been described. Intraocular bleeding is somewhat common after extraction of cataract, and he remembered a case of Schweigger's, in which one

day after a clean cataract extraction prolapse of the iris occurred, which had to be cut away, and after this operation, intraocular bleeding followed.

Maklakow—"*Proliferating Retinitis*"—gave a short resumé of the literature, and showed that for a diagnosis it was not necessary to prove the entire attachment of the newly-formed membrane to the retina. Often the blood vessels are not to be observed, and likewise the occurrence of choroiditis, with proliferating retinitis in the same eye, has often been described. The case which he had reported at the last meeting of the society was not supported. In closing M. quoted Blessig, who had seen the same case which M. described. Blessig wrote that the choroiditis had been observed to develope within the last five years, and that the newly-formed tissue had become more translucent, and its extent had lessened.

Adelheim believed that the changes which had occurred in the eye of Maklakow's patient should not be described under the name of proliferating retinitis. The diagnosis of proliferating retinitis should only be made of a typical condition. Lesions such as Maklakow's patient had should be named differently.

Golowine had concluded since the report of Maklakow that this was a case of proliferating retinitis, and that the remarks that were made in the last meeting against this diagnosis were not supported by the facts.

CHICAGO OPHTHALMOLOGICAL AND OTOLOGICAL SOCIETY.

Regular Meeting, October 11th, 1898.

Dr. W. Franklin Coleman in the chair.

Dr. Coleman exhibited a patient on whom he had performed *Mules' Operation* two weeks previous and put in an artificial eye two days ago, and it has been worn now forty-eight hours comfortably. The excursion of the eye is twenty-five degrees up and down and twenty degrees out. The patient is a miner, who six weeks ago, in the course of his work, received a blow from a stone on his left eye. It was quiet when he came to see me on the 20th. By the 26th there was considerable reaction, and tenderness upon pressure in the upper ciliary region. There was a cut through the cornea extending into the ciliary body, and he found that it was advisable to remove the eye on account of sympathetic irritation. He had in a previous case inserted a ball in the conjunctival sac, and

never saw an enucleation followed by less reaction. There was no edema of the lids and the man went out of the hospital within a week, and the eye was perfectly quiet.

In this case Dr. Coleman eviscerated the eye in the usual way, and hen made an incision above and below vertically in the sclera, irrigated the scleral cup with very hot water until the hemorrhage ceased and then cauterized the inner wall of the sclera with ninety-five per cent carbolic acid, then inserted a medium sized globe, sutured the sclera vertically, and the conjunctiva horizontally, and then irrigated very freely with two gallons of hot water, and left directions that hot water be applied every alternate half hour. The first day there was excruciating pain, and moderate pain for forty-eight hours after. The first day the edema of the lid was very great, but it was very much reduced the following day. From descriptions of Mules' operation he infers that there is usually a great deal of reaction. We all will accede to the statement that evisceration is followed by much more reaction than enucleation. Dr. Coleman considered the reaction in this case unusually moderate, and attributed it to two things: In the first place, the cauterizing of the sclera; and, secondly, to the free irrigation with hot water.

The important question is, then, as to the matter of safety. Dr. Allport (*Annals of Ophthalmology*) says evisceration is followed by such unfortunate sympathetic results that he was induced to experiment with the Mules' operation, and is quite in favor of it. Dr. Coleman cannot see that if evisceration is not safe as a protection, that putting a ball in the sclera will add to the safety. He does not know that statistics show evisceration to be less safe than enucleation. Dr. Hotz reports an unfortunate case of sympathy following evisceration, but there are in our report thirty sympathetic cases following enucleation. Knapp says that abroad the majority reported against Mules' operation. That in some cases—a small per cent—the ball was extruded, and he quotes Zermack as saying that the operation is a failure; that sooner or later the foreign body would be extruded. All the symptoms of sympathy in this case have disappeared.

Dr. Hotz has had no personal experience with Mules' operation. The effect of these operations, as far as the motility of the artificial eye is concerned, does not seem to be any greater than that of an enucleation or an evisceration.

When in Philadelphia last year Dr. Fox, who, as we know, is an ardent advocate of this operation, took particular pains to convert him. He had collected in his hospital about eight cases of Mules' operation,

eight patients on whom the operation had been done at various times. Some had been wearing the artificial eye and the artificial vitreous for over two years. This fact would certainly show that the glass ball is well tolerated, and it stands to reason that if it has been worn over two years, that it will remain there and not be extruded later on. The scar over the glass ball was smooth and firm—showed no tendency of expansion. The results in this respect were very satisfactory.

But as to the movements of the artificial eye—as to the cosmetic effect, he must say that if the eye showed good motility it was a small artificial eye and looked sunken, and if the eye looked nice and full, the motility was very limited, and in the case shown here to-night, the outward movement of the glass eye is very limited, and the inward movement is no better than he has seen in glass eyes on enucleation or simple evisceration stumps. But one thing struck him as a cosmetic advantage, and it is very noticeable in this patient, and that is the absence of that deep, hideous, sinking in of the upper lid, which we all know is unavoidable and quite conspicuous after an enucleation. You could notice in this case that the contours of the upper lid seem about the same in both eyes, so that the expression of the eye is quite natural, and its form much better than we find it with a glass eye inserted after an enucleation. The artificial eye stands out better; there is no question about it, and this is the only cosmetic advantage to be gained by the insertion of the artificial vitreous.

Dr. Casey Wood, some nine years ago, did Mules' operation on two patients after observing favorable results in clinics abroad. One of the cases did well until he lost sight of him a few months afterward; in the second instance, the glass ball was promptly extruded. Observation of these two cases and of others in the service of brother ophthalmologists convince Dr. Wood that just as much as one produces the desired cosmetic effect of a prominent artificial eye, just so much does he bring pressure to bear on the anterior structures that must be depended upon to hold the sphere in place. To that extent, consequently, is there a liability to absorption of the parts in front of the artificial vitreous and to the eventual extrusion of the globe. He concludes that inasmuch as the thing that seems to be desired is the principal source of subsequent danger and failure, there is very little in the procedure to recommend it as an operation preferable to a properly executed enucleation or evisceration. At the last meeting of the *American Medical Association* in Denver this year, Dr. Wood was much interested in some hollow aluminum balls exhibited by Bryant, of Omaha, out of which segments had been

cut, so that when introduced either into the globe itself or into the orbit after an excision, the surrounding tissues entered the openings and held the ball firmly in place. It is a device correct in theory and efficient in practice, and seems in every respect superior to the ordinary glass balls. These aluminum spheres may be inserted into the exenterated globe, or they may be placed directly within the orbit. We thus not only obtain a prominence upon which to adjust an artificial eye, but we have it held firmly in place. The pressure of the anterior segment is so slight that with ordinary care there is little or no danger of conjunctival absorption, and, as a consequence, safety from extension of the globe.

Dr. Casey Wood presented two cases (father and daughter) of *congenital distichiasis*. Both patients exhibit absolute normal lids apart from these supernumerary cilia. In both cases the second row is of fine, white hairs, on the inner margins of both lids—few of them impinging on the cornea. The latter is free of opacity, and the conjunctivæ are practically normal. Occasionally some lashes touch the corneal surface, and have to be extracted. There is a plain history of both patients having exhibited the condition from early infancy.

Dr. Hotz mentioned a case where there was a row of eyelashes coming out directly from the posterior lip of the margin—faint, fine-looking hairs protruding from the lid only about ⅛ inch. They came out very easily; it took very slight force to pull them out, and to his great surprise the hairs were as long as regular eyelashes after their removal; and it seemed to him that they arose from the meibomian ducts, and after being extracted a few times they stopped growing. In this case, where the hairs grow again so persistently after epilation Dr. Hotz would dispose of these eyelashes by electrolytic treatment.

Dr. Casey Wood said he intended to employ a somewhat different method from that suggested by Dr. Hotz, although he agreed with him that the cases were not suitable for any of the ordinary operations for trichiasis. He would take a couple of fine wooden tooth picks and by sharpening them carefully, make them very sharp and very hard. With the visual aid of a powerful lens, he would drill a hole alongside the lash into the follicle; the second toothpick is dipped into fuming nitric acid and inserted alongside of the first one. That is a plan easy to carry out. It does not hurt the patient very much, less than electrolysis, and it thoroughly destroys the follicle.

Dr. Hotz reported a case in which there had appeared well marked *untoward effects of mydriatics*. On the 15th of August he was called to see a gentleman about sixty years old who had been under the care of

Dr. Thompson of Indianapolis for an inflammation of the right eye. Five years previous he had had an attack of iritis in the same eye, and the physician who treated him then informed Dr. Thompson that atropine had caused a very violent inflammation of the skin; on that account Dr. Thompson did not prescribe atropine, but a weak solution of scopolamin. The patient himself told Dr. Hotz that when he had iritis the first time his face was swollen and he suffered more from the trouble of the skin than from the eye. He had not used the scopolamin prescribed, but simply made warm applications to the eye. There was no swelling of the lids, no irritation of the conjunctiva, no discharge, but the eyeball was intensely red, the cornea smoky, the iris discolored and swollen, and the pupil contracted to its utmost. Dr. Hotz, being anxious to test the mydriatic, used the solution of scopolamin prescribed by Dr. Thompson and dropped it in the eye several times while at the house, to obtain the dilatation of the pupil. It dilated slowly and irregularly on account of posterior synechiæ. The solution was ordered to be used every three hours and to report next day. The next day the injection of the eyeball was less, but the lids were œdematous and red. The pupil was not satisfactorily dilated; it was therefore decided to stop the weak solution of scopolamin, and to use duboisine instead, a solution of two grains to the ounce every three hours. Under this the pupil dilated satisfactorily, but the lids were exceedingly swollen, the conjunctiva discharged a good deal of mucous, the lower lid and the upper part of the cheek were puffed and at places serum exuded from the skin. The duboisine was, however, continued and an ointment given to apply to the skin, hoping that we might possibly counteract the irritating effect of the mydriatic. But the swelling of the face went on, so that in another twenty-four hours the whole right side of his face was intensely swollen. The skin furrows were deep and eroded; crusts of dried secretions formed everywhere, and the conjunctiva discharged a good deal; but fortunately the iritis subsided very readily, so that in a few days, the inflammation of the eye was practically gone. He was first seen on the 15th, and on the 19th the condition of the eyeball was so satisfactory that the duboisine was discontinued, and within the next twenty-four hours the face began to improve. He had no return of the iritis, and by the 24th of August the pupil responded readily, and the eczematous condition of the face and the swelling of the lids had entirely disappeared. *He did not suffer from any general constitutional symptoms.

*In Vol. III, p. 65, of Norris & Oliver's System of Diseases of the Eye, Dr. G. C. Harlan mentions a similar case of severe dermatitis resulting from the application of duboisine.

Dr. Colburn has had almost the same experience in a case of cataract extraction. About two years ago he operated upon the left eye, and atropine produced all the symptoms that Dr. Hotz has described. Last winter the right eye was operated upon, using duboisine instead of the atropine, with the reappearance of the untoward symptoms. The lids were distended, the nostrils and both eyes closed, and involvment of the whole of face and neck. It was a most fearful case of apparent erysipelas. The recovery from the operation was not interfered with, the visual result good.

Dr. Casey Wood reminded the members that in every case of well marked atropine conjunctivitis that there is a disposition to inflammation of skin and mucous membranes from the local application of belladonna and its alkaloids—a sort of dermal idiosyncrasy. He had made experiments in this direction and found that the subjects of atropine conjunctivitis showed a distinct dermatitis when the atropine solution was rubbed on the skin of the arm, leg, thorax, etc.

Dr. Pinckard had had one case where a single drop of atropine, duboisine, or hyoscine brought on very marked constitutional symptoms, but not any skin symptoms. The patient was a woman about thirty years of age.

Dr. C. P. Pinckard reported a case of *Sarcoma of the Lid* in a woman thirty years of age, first seen in May of this year. Two months previous she had noticed a swelling on the lower lid, just to the outer side of the punctum, which gradually increased in size. It was then about the size of a very large pea, the skin being a trifle reddened, and the conjunctiva a dark red color. In appearance it resembled a chalazion and its removal advised. On making an incision into the tumor, however, it was found to be solid, a section of which on examination proved to be sarcoma, the specimens of which were shown microscopically.

The question of the differential diagnosis is certainly very difficult. The only peculiarity that Dr. Pinckard noticed and which probably should not have noticed but for the subsequent developments, was that the border of the lid was very much raised at the site of the tumor, thus disturbing the line of the lower lid. This is not the case with chalazion, the swelling generally extending only outward or inward, and not interfering with the line of the lid border.

The patient was sent to the hospital, and under ether a large V-shaped incision, beginning at the inner canthus and to the outer side of the middle of the lid and joining about an inch below the lid, was made, and the whole section removed.

The caruncle, the lachrymal sac and some of the orbital tissue were also removed. The outer half of the lid was joined to the skin of the nose and healed readily by first intention, leaving but a comparatively slight scar. Some few weeks later at the site of the scar there was a suspicious looking growth, which was thought to be the probable return of the sarcoma, that has now disappeared.

Dr. Pinckard thinks it impossible, in many cases, to make a differential diagnosis between sarcoma and chalazion before a section is made into the tumor. Certainly in this case, with the possible exception of the lid edge, there was nothing characteristic. The patient was healthy in all other respects, and no doubt this was a primary sarcoma of the lid.

Dr. Wescott had made one observation of tumor of the lid, not sarcoma, that may be of interest in this connection. A child was brought early in the summer with quite a considerable tumor of one upper lid. It extended almost the entire length of the tarsus, which it covered very completely. The child was about three years of age, and had been presented to Dr. E. L. Holmes when it was six months old. It then had a small tumor, which he took to be a chalazion, and was surprised when he cut through the skin to find a solid tumor. He split it to the tarsus and then curetted, thinking that he had removed the entire growth. It returned very slowly, and had been growing up to the time that the child was brought to Dr. Wescott. No difficulty was found in dissecting the tumor and the orbicularis from the tarsus, leaving a perfectly clean, dry cavity. The operation was done about five months ago. The patient was heard from a month ago when there has been absolutely no sign of return. Dr. Hektoen, who examined the sections of tumor, pronounced it as a true angioma.

In the discussion of *Dressings of Cataract Cases*, Dr. Coleman said in the last three cases he did not apply a compress bandage; simply put on a gauze shade, suspended by plaster on the forehead, and covered that with a papier maché shield, and has never had much reaction.

In a discussion on *Iridectomy in Cataract Extraction*, Dr. Coleman said Landolt has probably written the best article of late years on cataract extraction, and he says that beyond all controversy preliminary iridectomy offers the safest prospect of recovery. All things considered, Dr. Coleman prefers preliminary iridectomy as affording the greatest amount of success.

Dr. Coleman said he questioned the efficacy of using eserine in the simple operation. He would not use eserine to prevent prolapse, but

atropine. The latter, by opening the gateway, takes the pressure of the aqueous off from the posterior surface of the iris and thus prevents prolapse.

Dr. Hotz has never divided the operation to save the patient annoyance and nervous excitement of two operations, when he can get along with one. He does not know whether there would be anything gained by, or any greater safety in, the preliminary operation.

Dr. Bulson, of Fort Wayne, in the discussion of a paper that was presented at the recent meeting of the *British Medical Association*, a noted ophthalmologist cited a case in which the wound, following removal of cataract, remained open for seven or eight days. This was supposed to be due to the fact that the incision had been made wholly in corneal tissue, which in the aged repairs slowly.

Dr. Bulson recently had under his care a similar case in which, owing to the unruliness of the patient, the incision was made wholly in the cornea. This wound remained open, with escape of aqueous, for a period of five days; and, notwithstanding the fact that a small iridectomy was performed, no prolapse occurred. Under pressure bandage and the stimulating effect of hot compresses the wound closed very nicely.

As to the use of eserine, he did not presume to speak from a great amount of experience, as he used the drug in exceptional cases only. He believed it to be irritating in a large percentage of cases and therefore prefered to limit its use as much as possible. He had seen weak solutions produce violent irritation, and for that reason has learned to look upon all applications of eserine with considerable suspicion.

Dr. Wescott is still doing the combined operation and hesitates to change. He has also seen decided irritation from a half-grain solution of eserine, and his ordinary prescription is an eighth or a quarter to the ounce. He believes in using atropine after extraction, but does not begin it early, and frequently has omitted it until the fourth day.

Dr. Pinckard: When house officer in the Infirmary in Boston, Dr. Chandler devised an operation and operated on fifty cases with a device which was quite ingenious. He argued that the prolapse of the iris was due to the gushing forth of the aqueous, carrying the iris with it. So after doing his extraction, he cut a small piece, the size of a pin-head, out of the peripheral edge of the iris. The idea is certainly ingenious, and was probably original with him. By this means he left the pupil round, and that part of the iris with the hole in it was always covered by the upper lid, and through this hole fluids could pass to the anterior chamber and thus diminish the danger of prolapse.

Dr. Robertson of Davenport, Iowa: After operations for cataract it is desirable to have as small a clear pupil as possible. Whether you do a simple or a modified operation, there is nearly always some secondary cataract developed, and it is desirable to have a pin-hole pupil through the secondary, for the reason that you get a greater range of accommodation. The larger your pupil, the less accommodating power you have left in the eye. There is one case I recall where the man had accommodation enough to see at a distance and read with the same lens. This is of course not on account of any true accommodation, but by reason of the pin-hole pupil, all rays of light entering the eye being practically parallel. These patients can, by squinting the eye, make pressure on the globe by the lids so that the eyeball is elongated by mechanical force. This would of course create an artificial myopia, and in such a way give the patient an artificial accommodation. This artificial myopia can exist to an unknown amount, and we are not unwilling to concede that we might develop 3.00 D. or 5.00 D., which would be changing the diameter of the eye only 1mm., or 1¾mm. He does not think it makes much difference when you fit the patient after extraction, as some will wear the same correction always, while others require changing often.

Dr. Wescott had one traumatic case of cataract in a boy where he did a very small iridectomy and got vision of 20/40 with the proper lens. With the same lens the boy could read the smallest type. He ascribed this power to the very small pupil.

Dr. Coleman, in the *Discussion on Capsulotomy*, said he should not be tempted to use a forceps except when a tough capsule is present and is then very decidedly in favor of using the forceps, and in the few instances in which he had had occasion to use them the result has been most satisfactory. He does not see why some of the text-books should recommend removing the capsule subsequently to removing the lens. That seems a very dangerous proceeding.

Dr. Hotz' experience is somewhat unique. In all his extractions he has never come across any capsule that he could not cut with a cystotome. If he should encounter one that the cystotome should fail to cut, he would rather remove the cataract in the capsule *a la Pagenstecher*.

Dr. Hotz, in the *Discussion on Secondary Operation*, dislikes to do secondary operations, and if a patient has anywhere near satisfactory vision does not perform them for the sake of getting better vision. He cannot understand how any one can advocate them so persistently as if they were the simplest and most harmless operations. No matter what instrument may be used, the mechanical action certainly is not so much cutting

as tearing. We have very little chance to cut a capsule, and he has found that the membrane will yield before the knife until it tears. If the membrane is very thin no serious reaction follows, but if at all thick the reaction is severe. In cases of dense membrane he is in the habit of using two fine, sharp hooks, introduced through the cornea, and tearing the capsule in the center. As the traction of one hook resists the other, there is no dragging on the ciliary region. Even in cases of thin membrane he has seen violent reaction follow the secondary operation and has been able to demonstrate the presence of a small thread of vitreous in the hole in the capsule.

Dr. Coleman most heartily agrees with what Dr. Hotz has said. While the knife needle in his hands has been followed by unfortunate results, he has quite frequently operated on tough membranes with the de Wecker scissors, and always with gratifying success, a good pupil having been secured and with very little reaction.

Dr. Pinckard has often seen the operation referred to by Dr. Hotz done in Boston, particularly by Dr. Jeffries. Usually but one hook was used, the other point of traction being a Bowman needle. The needle was passed through the cornea and into the center of the capsule and then a hook introduced from the opposite side and a tear made with the needle as a point of resistance.

Dr. Wescott has accomplished the same thing by introducing two needles on opposite sides of the cornea into the center of the capsule and thus tearing the capsule.

In the discussion of *Prescribing of Glasses after Cataract Extraction*, Dr. Westcott said, we have to be guided in these matters very largely by the means of our patients. A good many, especially those from the country, are very anxious, for more than one reason, to return as soon as possible, and they want some sort of a glass when they go home. He has been in the habit of measuring the refraction carefully between the end of the second week and the beginning of the fourth week, and has given the patient the spherical lens which gave him the best vision; has asked some of these patients to come back in three or four months, and in more than one instance he has been able to give a permanent glass at the end of sixty days, that was still the best glass accepted within a year.

In other cases, one of which he now has in mind, he found a very decided change at the end of a year. He extracted a cataract in Minnesota last September, the patient was left two or three weeks after the extraction, and he accepted then a +9 sphere with a +4 cylinder. He was given a +9 sphere to wear and was perfectly satisfied, except that he

could not read. This year the patient was found to have even less vision, 20/100, with the best correction which could be given him, which was a +12 sphere and a +4 cylinder. In the dark room it was found that the posterior capsule was thrown into fine vertical folds. The anterior capsule was out of the way entirely. A needling was performed on the following day. After a week's time, during which there was absolutely no reaction, the patient accepted the same correction, but got 20/30 vision, and was able to read his newspaper. If we could see all of our cataract patients once a month for a year we might be able to decide this question.

Dr. Wescott asks his patients to stay in town a month when they come from outside for cataract extraction. Then he asks them to come back in three months, and then again in six months, if the glasses are not perfectly satisfactory for all purposes, and in that way he has given some patients better satisfaction than if any definite time were set for giving final correction.

Babcock directs that yellow oxide ointment should be prepared as follows, as he believes decomposition and precipitation of mercury will be prevented.

℞—English Graphite, gr. x.
Hydrarg. Oxid. flav. gr. xx–x.
Oleum Theobromae, q. s.
Butter of Antimony, gtt. ii.

Mix and make into pencils.

Manin recommends the following for loss of eyelashes due to syphilis.

(1) ℞—Glycerin. 200 parts.
Ext. Krameria, 15 "
Calcium Iodide, 10 "
Iodine, 1 "

M. Sig. One teaspoonful every morning in a half glass of water.

(2) ℞—Pilocarpine nit. ¾ grains.
White prec. 3½ "
Vaseline, 225 "

M. Sig. A piece as large as a grain of wheat, to be rubbed on the edges of the lids (the lid being closed) every night and morning.

REVIEW.

I. The Anatomical Changes in the Eye Caused by Syphilis.—By Dr. med. Karl Baas, in Freiburg i. Br. *Archiv für Ophthalmologie, Band* XLV, 3.

II. Scrofula of the Eye with Especial Reference to the Question of Sex and Age.—(From the clinic of Prof. Magnus in Breslau.) By Dr. Emil Guttmann. *Deutsche med. Wochenschr*, August 25, 1898.

A report by Robert L. Randolph, M.D., Baltimore.

The author mentions the frequency with which eye symptoms accompany syphilis, and also how suggestive certain of these symptoms are of syphilis. Not only is syphilis manifested in external affections of the eye as in keratitis, but also in deep-seated diseases as choroiditis, retinitis, etc. There is, however, a lack in our knowledge of the anatomical changes in the eye resulting from syphilitic infection. Quite a complete record is given of those who have made contributions to this aspect of the question, commencing with Hutchinson (1860), A. von Graefe (1861), and ending with Dor and Elschnig in 1896 and 1897, respectively. He reports four cases where he had an opportunity of making an anatomical examination of the eyes, and in all of them the diagnosis of syphilis had been well established. The conjunctival changes consisted, first of all, in alterations in the blood vessels. The changes were most marked in the intima, and consisted chiefly in endarteritic proliferations. Elschnig has observed the formation of new blood vessels. Changes in the lymphatics were observed only once. While Elschnig reports hyperplasia of the connective tissue cells, Baas has observed simply an induration of the tissue. Clumps of round cells and areas of round cell infiltration were often seen, these areas not infrequently extending right into the epithelium. The changes in the epithelium are to be regarded as secondary, and consist in a dropsy of this membrane with a mucoid degeneration of the cells, and in one case there was an exfoliation of the upper layers of epithelium. As regards the conjunctival changes, Mauthner has observed obstinate conjunctivitis, which has later on been followed by iritis. It is evident from this that we have here a so-called idiopathic disease of peculiar character, differing widely from those changes seen in the ordinary conjunctivitis.

Changes in the cornea: These consist principally in the formation of new blood vessels. Hirschberg is of the opinion that these blood vessels never disappear, but that they may always be seen with a strong lens. This view is confirmed by the observations of Baas.

Changes in the sclera are not frequent, and this may be accounted for by the relative scarcity of blood vessels in this location. It may be said, however, that secondary round cell infiltration has been seen by v. Hippel, Delafield and Scherl. The same reasoning applies to the cornea, and Stellwag thinks that the changes here are always secondary to those in the uvea.

We all know that iritis is a secondary manifestation, and that the so-called gummous iritis is really iritis papulosa. Virchow has expressed the opinion that it is impossible in all cases to distinguish with the microscope between the anatomical products of secondary and tertiary syphilis. We do not possess, then, sufficiently trustworthy microscopic evidences, or rather proofs, to enable us to say always, here we have secondary changes and there tertiary changes. So much more valuable, then, becomes the clinical aspect of the question. What we used to regard as a gumma is in the light of our better knowledge now considered a condyloma. Baas found nodular thickenings throughout the iris, and proliferations upon the sphincter and in the ciliary region.

The changes in the vitreous body consisted in an increase in the so-called vitreous cells and leucocitic elements. Liquefaction of the vitreous is not infrequently found so, also fabrillary degeneration of the same.

The choroidal changes, according to the investigations of Baas, are found usually in the chorio-capillaris, consisting in a lymphoid infiltration in this locality, associated in the outer layers with numerous foci of round cell infiltration. Some have thought that the nodules are invariably found next to the blood vessels or in the intervascular spaces, but this view was not confirmed by Baas. The latter was struck by the fact that the cell infiltration was much more intense near the entrance of the optic nerve than in the anterior and equatorial parts of the choroid. The stroma does not participate to any great extent in the inflammation. The stroma cells showed changes chiefly in shape. The vascular changes, however, were most marked. Here were found vegetations in the intima with hyperplasia of the endothelium and sclerotic thickenings in the adventitia of the vessel wall. It is a well known fact that after all other manifestations of syphilis have passed away another attack of inflammation may occur in the uvea, and often does occur. In all the cases in which Baas made an anatomical examination the patients had been free from

luetic disturbances for years and yet the histological examination revealed the most intense and active inflammatory changes.

Changes in the retina were observed in all those cases where choroidal changes had been present. Both Bach and Appel think that it is quite possible for the retina to be affected alone in such cases, but it must be said that they are alone in this opinion. First of all, we have the changes in the vessel walls, with the appearance of which we are familiar from the works of Hutchinson, Brailey, Uhthoff and others. Foci of infiltration are described by Hutchinson and V. Hippel, while Brailey and Uhthoff describe more diffuse changes. Neumann speaks of a growth or proliferation of pigment epithelium, while Fuchs reports the presence of glandular formations and atrophy of the nerve fibre layer with widening of the lymph spaces. Baas concludes that the so-called retinitis centralis i really a chorio-retinitis. To sum up, the changes in the retina we have serous infiltration and areas of increased nucleation. These retinal foci are not gummata. While the anatomical examination would suggest that it was possible for the retina to be involved alone, as yet there is nothing to prove this. In other words in all the cases reported by Baas the choroid was involved, and it is exceedingly likely that the changes in the retina in this class of cases are always secondary to those in the choroid.

The optic nerve changes consisted partly in an increase in the connective tissue corpuscles of the septa. This condition was present at the intraocular end of the optic nerve, as one might suppose from the location of the choroidal changes. It should be said, too, that these changes extended right into the lamina cribrosa. In fresh cases round cell infiltration was always present, this infiltration diminishing in intensity backward, and being most marked in the region of the papilla. In the inter-vaginal space there was at its anterior end a proliferation of the endothelial parietal cells. All these changes are to be explained by the intimate vascular connection between the nerve head and that part of the choroid where the pathological changes were most marked. The changes in the vascular system of the optic nerve were most pronounced.

II.

Guttmann speaks of the more or less mystery surrounding the word scrofula. In early times this was not so, the condition then being regarded as a distinct constitutional affection depending upon a well-defined dyscrasia. Since so much light has been thrown upon the nature of infectious diseases it has dawned upon us that what we call the scrofulous diathesis possesses no characteristic pathological products, and that the term is a vague one. Yet from a clinical and practical point of view the

term is a satisfactory one to apply to a certain set of symptoms which are constantly recurring, and whose causes, to say the least, are obscure. When we use the word we have in our mind's eye a young person, in fact a child badly nourished, pale with enlarged cervical glands, eczema of the face and head, chronic inflammation of the nasal mucus membrane and of the ear, and lastly with obstinate eye trouble, characterized particularly by photophobia. Guttmann has had exceptional opportunities of studying the scrofulous affections of the eye, and his conclusions are drawn from observations made in the clinic of Professor Magnus in Breslau. He regards as scrofulous ophthalmia:

1. Phlyctenular conjunctivitis.

2. All cases of superficial keratitis, with the exception of traumatic, and of those which may be regarded as keratitis superficialis, marginalis, herpetica, etc.

3. All cases of follicular keratitis and pannus scrofulosa.

4. Cases of eczematous catarrh, *i. e.* muco-purulent catarrh.

Among forty thousand eye patients there were 6,550 affected with eczematous kerato-conjuctivitis, and among these 2,157 were males and 4,393 were females; in other words more than two-thirds of those affected with scrofulous ophthalmia were females. As regards the special kind of affection:

Phlyctenular conjunctivitis, 3,873.

Muco-purulent catarrh, 161.

Keratitis eczematosa, 2,516.

It would seem from this that the female sex were twice as liable to this variety of eye trouble as the male. Of the forty thousand patients 15,052 were children, and of these latter 1,700 boys and 3,370 girls were affected with scrofulous eye trouble. The author then proceeds to give tables of the number of patients seen between certain periods in the clinics of Wicherkicwicz, Schreiber, Sattler and Kerschbaumer. An analysis of this material served to confirm in both points the results of Guttmann's observations, namely: that most of the patients affected with scrofulous ophthalmia were children, and that the females were almost twice as numerous as the males. He sums up his interesting study as follows:

Patients with scrofulous kerato-conjunctivitis constitute about one-sixth of all eye patients, and among children up to the fifteenth year nearly one-third. As regards sex the female on an average furnishes nearly twice as many as the male. These affections begin about the middle of the first year, increase in frequency up to the fourth year, and thereafter become less frequent. The most liable time is between the first and second dentition. With increasing age the male sex loses more than the female sex the disposition to scrofulous ophthalmia.

CORRESPONDENCE.

To the Ophthalmic Record:

I append a short report of a clinical observation which may serve as a slight contribution to our knowledge of the relative effects of cocain and holocain.

In experimenting with cocain and holocain upon the normal conjunctivæ of seventy-five individuals, report as follows: Cocain was dropped into one eye and holocain into the other. In fifty-one cases the holocain smarted the most, while in ten cases the eye into which the cocain had been instilled was the more painful. In fourteen cases the person was unable to decide. In no case was there any objective difference.

Robert L. Randolph.

To the Ophthalmic Record: In the October number of the Ophthalmic Record I directed attention to "A New Treatment for Trachoma." Dr. Neiswanger of Chicago, in a letter to me, claims priority and has submitted proof that he published in the Alkaloidal Clinic, in 1895, a similar treatment. My work was independently done and without any knowledge of his. To him is due the priority in calling the attention of the practitioners to the treatment. Trusting that this little note does proper justice, I remain,

Very fraternally,

George F. Keiper.

"THE EDUCATION OF THE OPHTHALMOLOGIST."

To the Editor:—In the current (October) number of the Ophthalmic Record is an editorial over the initials F. B. E., to which I, as well as every thinking ophthalmologist, I believe, must take decided exception.

When an editorial writer of what we, the readers, have learned to look upon as a journal seeking to elevate the standard of our chosen and honorable profession, deliberately teaches that "with a ground-work of physiology, chemistry, physics, and mathematics those branches of oph-

thalmology peculiar to itself can be mastered in a university preliminary medical course, and the time spent in a medical college actually shortened," it takes away one's breath and one wonders whether this is really the latter part of the nineteenth century.

Why not omit physiology and chemistry in the teaching of those branches of ophthalmology peculiar to itself? Refraction, in the sense of measurement of the individual eye as an optical instrument, is the only branch of ophthalmology entirely independent of general bodily conditions, and this can be said, only when the refractive apparatus is in a state of absolute rest. The merest tyro knows that at all other times the correction of abnormal refraction is intimately dependent on the general physical condition of the patient.

The neurologist asserts, with reason, that the retina is but an extended portion of the brain, the outpost as it were. It is governed by the same physiological laws as the rest of the nervous system, modified in accordance with its peculiar environment. The lens is a modified portion of the skin and has its own special functions. Will any one presume to affirm that a thorough knowledge of the laws which govern the body in general is not a vital necessity in treating affections of the retina or lens?

I combat the assertion of the writer with all the vigor at my disposal that "Ophthalmology is peculiar to itself in respect to the study of ocular physiology and dioptrics, light and color perception, binocular vision, etc., and **no amount of experience in other departments of medicine is of the slightest assistance in understanding them.*" That is exactly what the numerous optical colleges with their two or four weeks courses, which disgrace our country, are teaching. The opticians and "refractionists" all agree with F. B. E. here. But surely a well-equipped oculist would spurn to have such sentiments govern him. Does the gynecologist not have a field peculiar to himself, and is not experience in other departments of medicine of the very greatest value to him?

The specialist should be a well-rounded out man with years of experience in general medicine behind him before venturing to embark in any specialty, and especially is this true in the extremely important one of ophthalmology. We need broad-minded, level-headed, painstaking men in this age when the tendency is so toward fads, fancies, and hobbies. The man who cures all cases of epilepsy by correcting hypermetropia is just as ignorant or just as dishonest as the osteopath who does it by rupturing a stiffened tendon or massaging a joint. A sound *general* medical education and practice of some years would drive such nonsense out of the head of any man of average intelligence. The well-grounded progres-

ive physician does not drop into a rut of fixed habits and thought. His mind is even more receptive than during young student life, or if it be not, he would better not essay a specialty, as he will never succeed in it. By all means let us have "blackboard demonstrations exactly as in the case of mathematics with such works as those of Donders and Landolt as guides, together with practical work in a well-equipped ophthalmological or physiological laboratory," but let it be *after* a thorough theoretical and practical knowledge of medicine has been obtained; otherwise the satellite may be taken for the planet itself.

The legitimate results of such pernicious teaching as that of F. B. E. would be the rapid multiplication of those "rapid-firing ophthalmic colleges," optical colleges, refraction colleges, and eye, ear, nose and throat colleges, until the term oculist will be synonymous with that of optician; and neither will earn more respect than that of the term chiropodist.

S. E. Cook.

Lincoln, Neb., Oct. 10, 1898.

*Italics are my own.—S. E. C.

In a recent communication to the *Berlin Ophthalmological Society*, Professor Hirschberg stated that the large number of blind beggars seen by him in traveling through Spain some years ago, led him to investigate the subject. The only official statistics which he could find—those of the Government Census of 1860—gave the proportion of blind persons as only 11 per 10,000 of the population, a figure which appeared incredibly low in view of the numbers of blind persons seen in the streets and other public places. Further investigation showed that ever since the beginning of the present century travelers in Spain have noticed the large number of blind persons seen in that country. The official statistics have in fact been so carelessly collected that they are of no value. Diseases of the eye have for a long time been spreading to an alarming extent in the Peninsula. Hirschberg says that he has never seen such marked phthisis bulbi, or so many cases of it, as he met with usually in Spain. Even among the well-dressed people it is, according to him, quite common to see individuals who have lost an eye, and persons of the well-to-do classes who have lost both eyes are by no means rare. At the Congress of Hygiene held at Madrid in the spring Professor Hirschberg uttered a grave note of warning as to the prevalence of such preventable diseases as purulent ophthalmia neonatorum and trachoma, and urged in the interest of the Spanish people itself, as well as of its neighbors, that the medical profession of Spain should pay more general attention to diseases of the eye.

NEWS ITEMS.

Personals and items of interest should be sent to Dr. Frank Allport, 92 State St., Chicago.

The collaborator who superintends the publication of this part of the Ophthalmic Record begs leave to make a personal plea to every physician who reads this magazine. He desires to request such readers to take a little interest in the news column. Nearly every subscriber must be acquainted with some ophthalmological item of interest. He must have heard something or read something that interests *him*. If it interests him, it will interest others, and if every reader would send such matter each month to the name and address to be found at the head of this department, it will be highly appreciated. Please do not forget this request. Help us to make the Ophthalmic Record still more interesting!

At least one member of royalty is earning an honest living and is doing really useful work in the world, for it is said that the popularity of Duke Carl Theodore of Bavaria, who sustains an international reputation as an ophthalmologist, is so great that last year he attended over five thousand patients and performed over two hundred operations on the eye.

Dr. Frank Rumbold of St. Louis, has resigned as secretary of the Western Ophthalmological and Oto-laryngological Society, owing to his time being occupied with military duties. Dr. T. A. Woodruff of Chicago, has been appointed to take his place. Titles of papers to be read at the next meeting of the society in New Orleans, February 10 and 11, 1899, should be sent at once to Dr. Woodruff, at 100 State Street, Chicago, Ill., as it is necessary to have the program completed as soon as possible.

There are in Europe in the neighborhood of three hundred thousand blind persons. Of these, thirty thousand, or 10 per cent, owe their misfortune to ophthalmia neonatorum. Surely this is an appalling condition of affairs, especially when it is considered that a large percentage of such blindness might have been prevented by proper precautions.

The note of warning sounded by Crédé, Howe and others should bear fruit. M. Galezowski of Paris claims that three conditions are indispensable in order to effect a cure of these diseases. (1) Cauterization of the conjunctiva daily; (2) Continuation of the treatment from the beginning to the end of the disease; (3) Rigorous observation of the laws of antisepsis. Dr. Sidney Stephenson lays down some rules for the prevention of this malady that are so simple and practical in their application, they are worthy of reproduction and may be epitomized as follows:

(1) If a pregnant woman be known to suffer from gonorrhoea, every attempt should be made to cure the complaint before parturition. (2) In case the ailment persists, the vagina and external parts should be irrigated during labor with some antiseptic fluid, and this should be repeated from time to time if the stage of propulsion be slow. (3) After the child is born, but before the cord is cut, any secretion lodged about the lashes or lids should be carefully wiped away with wool, and moistened with perchloride lotion. (4) After the cord is severed one or two drops of a two-per-cent solution of silver nitrate should be rubbed into the baby's eyes, held open for the purpose. (5) Clean water must be used for washing the head and face, which must on no account be touched with that employed for the bathing of the body. (6) Secondary inoculations from the lochia, etc., must be avoided by the exercise of common sense and cleanliness.

The Eyesight in the Open Air.—Prof. H. Cohn asserts that examinations of the eyes indoors is no test of their actual capacity, and that all examinations of the eyes of school children, etc., should be made out-of-doors, as otherwise there can be no true standards. He states that the superior visual acuity of Indians and other savages is due to the necessity of concentrating their attention on objects on which their food and safety depend, and proves his assertions by statistics—many new and personal—which demonstrate that the out-of-door eyesight of civilized people averages as high as that of the uncivilized. He concludes that any one can make his eyesight equal to that of a savage by concentrating his attention sufficiently. He adds a plea for more out-of-door life for children, even at the expense of their studies and training in closer observation.—*Révue Gen. d'Ophtalmologie, August, 31.*

A rather interesting discussion has taken place lately in the London *Lancet*, between Mr. Kenneth Scott of Cairo, Egypt, and Mr. W. Adams Frost of London, on the subject of the removal of the transparent lens from the eye in high degrees of myopia.

Mr. Scott takes ultra conservative views on the subject, and believes that the operation should for the time being be absolutely dropped until such time as operations for senile cataracts can be made with absolute safety and with perfect confidence of a successful termination. He believes that the operation should be regarded entirely from the patient's point of view, and that inasmuch as the patient usually possesses a reasonable amount of vision by the aid of a properly adjusted pair of glasses he should in no case be advised to undertake an operation involving any risk whatever. He implies an exception to be made in favor of cases of malignant myopia.

Mr. Adams Frost, on the contrary, takes a more progressive though still reasonable view. He believes that if operations involving some risk must wait for their performance until all such risk is absolutely eliminated, that surgical progress would take many steps backward. He believes that it is for the surgeon to weigh the risk and advantages of the treatment, and to place them before the patient in such a way that he may be able to form a wise decision. He believes that it is not fair to compare the operation for senile cataract with the operation for high myopia, as the one involves the well-known operation for senile cataract and the other involves the operation of discission, with subsequent evacuation of the lens matter which is the recognized procedure for high myopia. He believes that while we should not rashly advocate the performance of this operation, that it should be performed, one eye at a time, in properly selected cases, where the matter is thoroughly understood by the patient and his friends, who request that the operation be performed.

We believe that professional opinion will favor the views expressed by Mr. Adams Frost.

Pukalow treats gonorrhoeal ophthalmia, by cleansing the eyes with a two-per-cent solution of boracic acid. He then drys the lids with absorbent cotton and applies calomel, with a camel's hair brush, to the everted lids.

Dr. Dudley S. Reynolds has been elected Treasurer of the Mississippi Valley Medical Association, to fill the vacancy caused by the resignation of Dr. C. A. Wheaton.

Atrophy of the Optic Nerve in Locomotor Ataxia.—Silex has determined from personal observation that 15 per cent of ataxic patients present lesions of the optic nerve. These lesions are often precocious

and occur during the pretaxic period. There is then observed a slow progress of the spinal disease. As regards the oft discussed relations between syphilis and tabes, Silex, out of fifty-four cases of tabetic atrophy of the optic nerve, has noted forty-four cases of syphilis—i. e., 81.5 per cent. Of eight women seven were syphilitic subjects. From this point of view it is necessary to attach a particular significance to atrophy of the base of the tongue described by Virchow and often considered as a syphilitic complication. Silex has met with this manifestation sixteen times in fifty-four cases. It is never present in non-syphilitic patients.

The manner in which optic atrophy develops is very obscure. It has no direct local relation with the sclerosis of the posterior columns. Some writers admit an ependymitis with alteration of the vascular centers of the fourth ventricle determining an affection of the optic nerve, exhibited to the microscope by diffuse total degeneration, or by islands of fibers of the nerve. Treatment gives variable results. Some patients bear mercurial inunction well, and seem to improve under the practice. Nevertheless, there is no objective amelioration, and three months later the acuity of vision again declines. In other cases the sight fails rapidly during the mercurial treatment, which has to be abandoned, and we are unable to regain lost ground.

Silex maintains that tabetic atrophy of the optic nerve is never really ameliorated by the mercurial inunctions, and that when improvement is produced there has been an error in diagnosis. On the other hand, this method of treatment has pernicious effects in many cases. The same is true of potassium iodide, which acts upon the inflammatory products of interstitial tissue.

Unfortunately, many patients absorb varied doses of iodide, to the great harm of their stomachs. Silex has endeavored to discover whether we can act upon the optic nerve by means of feeble galvanic currents of 2 to 5 milliampères applied to the cranium and neck. He experimented upon trephined dogs. A current of 2 milliampères caused weak contractions, which soon became very violent when a current of 5 milliampères was employed. The current applied to the exposed spinal cord produces convulsions. It seems, therefore, very probable that electricity might cause therapeutic effects in optic atrophy. Silex, however, has never obtained the least advantage from its use. The acuity has continued to decrease until reduced to zero. It was the same with other therapeutic measures. Strychnine, silver, thermal treatment and suspension all failed.—*La Médecine Moderne.*

Ocular Complications in Erysipelas.—By Dr. M. Ramirez (*La Médecine Moderne*, 1897).

The author thus divides the ocular complications of erysipelas:

1. Complications which Involve the Annexes of the Eye.—In the decline of erysipelas there may sometimes be observed upon the eyelids a slight or considerable oedema, with or without erysipelas vesicles, often followed by desquamation and loss of the lashes; at other times abscesses, which may leave vicious cicatrices, and these may cause ectropion; again, diffuse phlegmons, with gangrene, may occur. Blepharitis with mydriasis has been observed to follow erysipelas, as also chronic oedema, and one case of paralysis of the orbicularis.

Acute conjunctivitis sometimes occurs, and, according to certain writers, may be the point of departure of attacks of chalazions.

The lacrymal passages are attacked by slight catarrh. In certain cases the infection excites purulent dacryocystitis, with or without abscess.

When the infection is transmitted from the face to the retro-orbital cellular tissue or to the meninges and brain by way of the veins and lymphatics of the parts, phlegmon or meningo-encephalitis may occur. Meningo-encephalitis causes death, and phlegmon, in the absence of resolution, is followed by incurable lesions, such as optic atrophy, retinal hemorrhages, and thrombosis and embolism of the central artery of the retina.

2. Complications which attack the Eye-ball.—Among the lesions of the coats of the eye are a somewhat special keratitis, abscesses of the cornea sometimes terminating in ulcers with hypopyon, and paralysis of accommodation.

The deeper coats are the seat of choroiditis, often accompanied by iritis. In unfavorable cases purulent iridochoroiditis may take place. Finally, retinal hemorrhages have been reported, thrombosis and embolism of the central artery of the retina, atrophy of the optic nerve, and some cases of glaucoma.

Miss Helen Gould, daughter of the late Jay Gould, has given $5,000 to the Manhattan Eye and Ear Hospital for the endowment of a free bed.

Darier regards protargal very useful in acute catarrhal conjunctivitis, which it cures in three days, and also in purulent ophthalmia, which it cures in from eight to twenty days. He touches the inflamed surface with a solution of from twenty to fifty per cent, according to the severity of the

case. As a collyrium for patients to use themselves, he prescribes a five per cent solution. Furst uses it in the new-born infant's eyes, when the mother has gonorrhœa, as a ten per cent solution, without producing irritation.

Dr. J. L. Dickey of Wheeling, W. Va., reports a family where six members developed cataract at about the age of forty. He reports another family where five members of a family were similarly affected. He must have found a cataractous zone, or perhaps, they were not all zonular cataracts.

Artificial Cornea for Leucoma.—T. V. Schröder presented a patient at the meeting of the St. Petersburg Medical Society, April 28, whom he had cured of leucoma totale corneæ by the introduction of an artificial cornea made of rock crystal and platinum, with several small hooks at the rear of the platinum setting, which bore into the leucoma tissue and hold the prothesis quite firm. Salzer of Munich found that rabbits bore a similar contrivance a year without inflammation (1895).

Schröder's patient was blind from lime corrosion in the other eye, and the leucoma had developed after smallpox in childhood. The crystal cornea showed a tendency at first to work its way forward, but a narrow band of tissue soon formed around the edges and held it in place. There was no pain, no inflammation at any time, and the tension was always normal. He counts fingers at 2.25 meters and recognized colors. The eye does not water except with very bright light; with an ordinary shield it bears the daylight without trouble. An extremely delicate gray membrane formed over the back of the crystal, soon after its introduction, but it has not increased in thickness during the thirteen months since, and the results are considered satisfactory enough to warrant the application of the method on a larger scale. A similar membrane formed rapidly and so thick in Salzer's one case that the vision was only slightly improved by the operation. He attributed this to the profuse hemorrhage during the trephining. The simple technique is described in the St. P. Med. Woch. of September 11.

Panas' Total Combined Keratectomy.—This operation avoids all the dangers and deformities of enucleation. It is especially adapted to chronic glaucomatous and painful eyes, as it ends the pain and glaucomatous condition entirely and permanently. It leaves a round, smooth stump, fully three-fourths the size of the normal eye, movable and unat-

rophied, over which the artificial eye-cap fits so perfectly that its artificiality is scarcely perceptible. The fears of sympathetic ophthalmia are exaggerated in these days of asepsis. He has only encountered one or two cases in the last ten thousand at the Hotel Dieu. The operation as he has performed it on two hundred patients, with or without staphyloma, consists in the first passing a Reverdin needle through the sclero-corneal limbus behind the iris and lens, carrying a silk thread, which is left for the first stitch of the suture and tied if the vitreous shows a tendency to escape. The cornea is then removed with a Graefe knife held flat, cutting it into fifths and snipping off the last fifth with the scissors. The iris is removed with the cornea, if adherent; otherwise he performs iridodyalisis. The lens is then removed with the spoon, the escape of the vitreous being carefully prevented. The stump is sutured with a couple of stitches in the sclerotic and rounded off. The surface is rinsed with a solution of mercuric oxid, dusted with iodoform and a roll of iodoform gauze applied with a dry cotton bandage outside. The threads are removed the seventh day. The danger of hemorrhage is very slight—3 cases in 200. If it occurs, the eye can be enucleated or eviscerated. The latter leaves a fairly goodly stump. He mentions in his communication to the Académie de Médecine (Bulletin, August 23d), that Pritchard was the responsible author of enucleation, but that we have now progressed beyond it. Keratectomy, effective and harmless, should take its place in many cases —another forward stride in ocular surgery.

Privatdocent Dr. E. V. Schwarz, in Leipzig, has been appointed extraordinary professor.

Dr. Emil de Berger, Paris, has been elected foreign correspondent member of the Belgian Academy of Medicine.

Dr. L. Bellarminoff has been appointed professor of ophthalmology at the Military Medical Academy of St. Petersburg.

Dr. E. von Gross has been appointed adjunct professor to the chair of ophthalmology at the University of Budapest.

The death is announced of Professor Steinbrugge of Ziesen.

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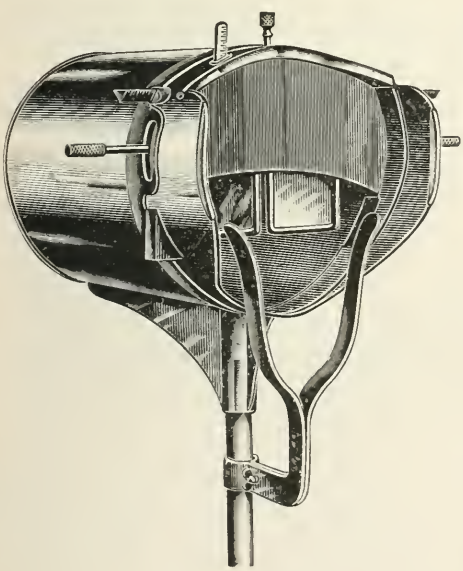

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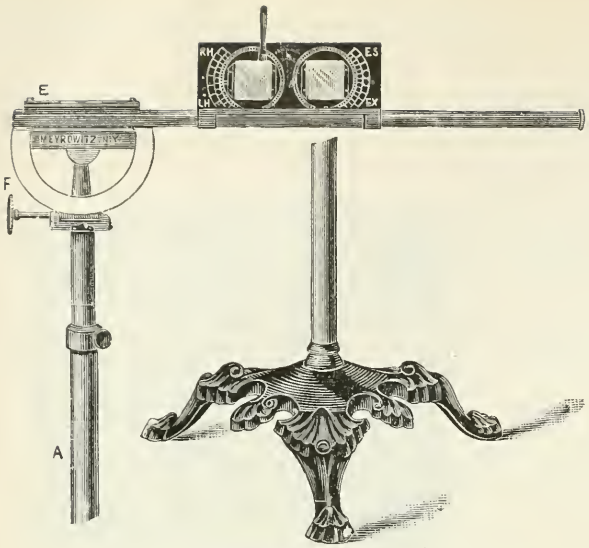

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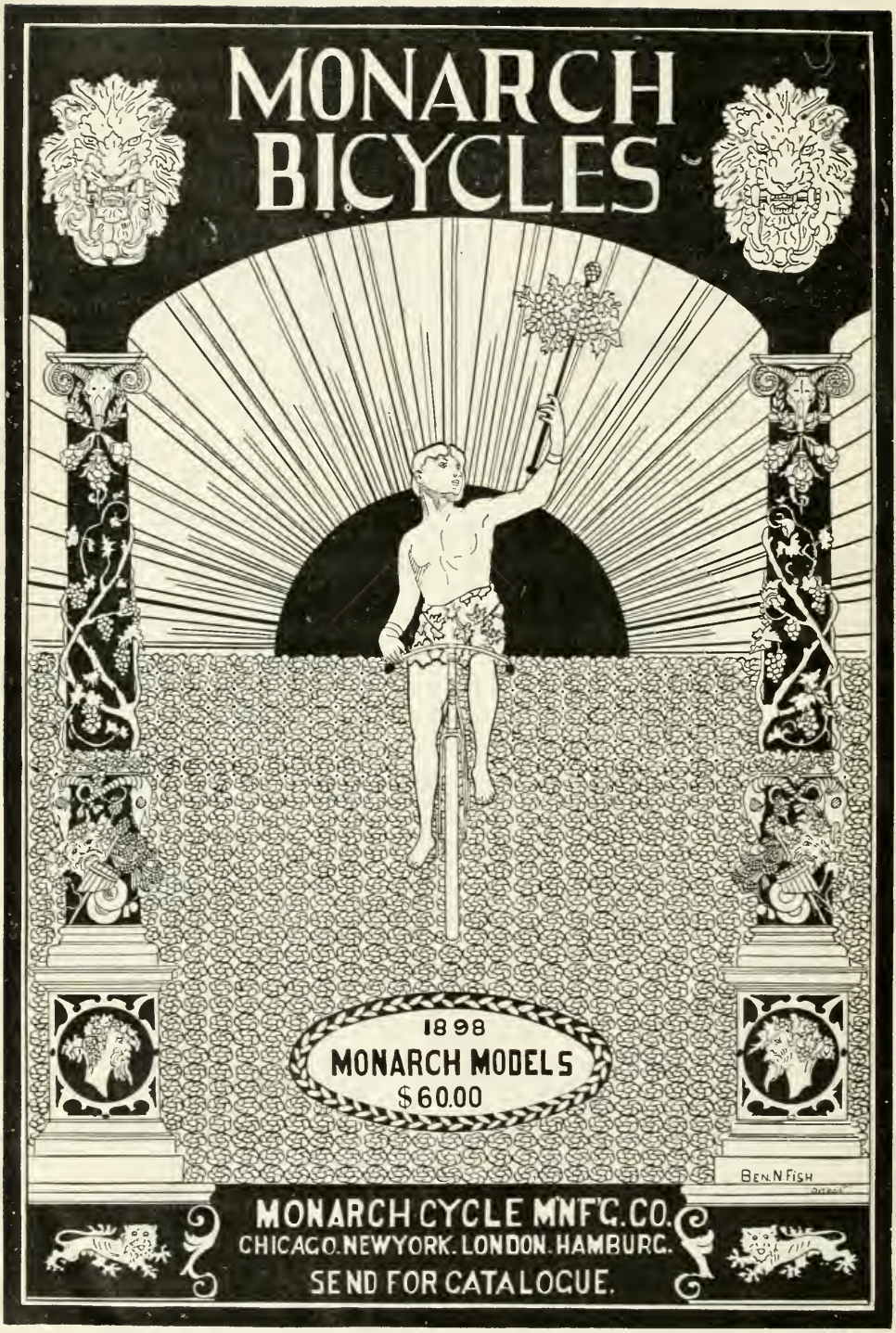
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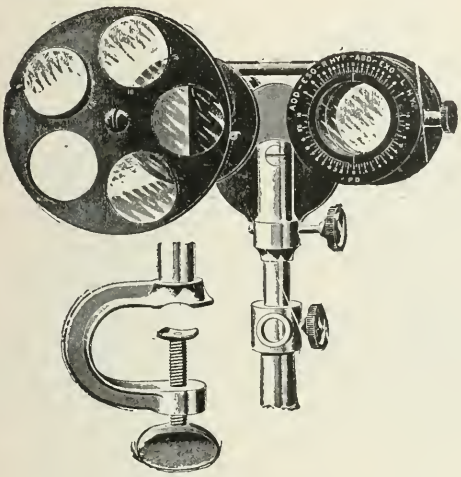

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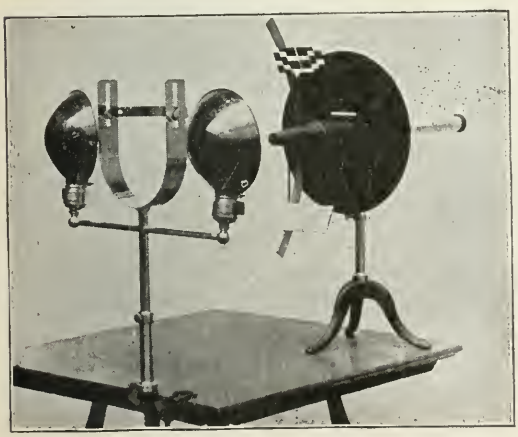

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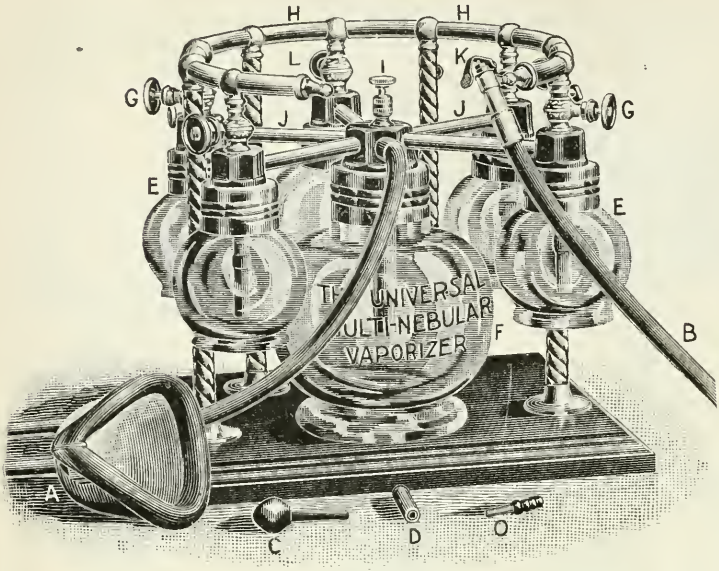

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